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ORIGINAL ARTICLES.

THE SURGICAL TREATMENT OF CROUP.

Read in the Section of Laryngology and Otology, at the Fort-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

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When medical treatment has been thoroughly tested and it is evident that the patient must die from asphyxia unless relieved, then we must meet the emergency by surgical measures.

A nice question of judgment often arises as to the proper time for interfering surgically. When shall we abandon all hope of saving the patient by medical means, and when shall we know that the child will perish unless given prompt relief? In answer to these queries I would say that when the voice becomes whispering, when the cough becomes suppressed, when in addition the dyspnœa becomes urgent, and the loud stridor heard both on inspiration and expiration, and when there is marked recession at the base of the sternum and above the clavicles—when all these symptoms are present and continuous, and not relieved by the use of emetics, it is certainly time to operate.

I do not advise and do not practice early operations. Operations performed early, with the first symptoms of laryngeal invasion, should not be sanctioned, as many will recover under medical treatment. Operative measures, on the other hand, should not be postponed until the patient becomes moribund, for while many will recover even under these circumstances, yet their chances for recovery are far less than when the operation is performed earlier.

We should endeavor to strike a happy medium between the two extremes and bear in mind the indications for surgical interference. Having determined that an operation is imperative, the next question to decide is the choice of operation. Shall we choose the time-honored operation of tracheotomy or the more recent operation of intubation of the larynx?

The latter operation requires far more skill and delicacy of *technique*, and is an operation limited to those especially qualified. In the hands of those so qualified it gives results that cannot be attained by the older operation. It is an operation that I would unbesitatingly recommend in preference to tracheotomy at all ages, under all conditions, and under all circumstances. In support of this statement I would fully record two hundred and eighty-five cases with one hundred recoveries, or 35 per cent. These cases have ranged from 5 months to 20 years in age, and from mild diphtheritic forms to the most malignant. All have been operated upon in private practice, and the majority of them in poor and destitute families where tracheotomy would scarcely have been undertaken. If any one claims the superiority of tracheotomy over intubation under these circumstances I would challenge them to record their cases. Tracheotomy in hospital practice, where patients can have every care and attention, or when performed upon selected cases and upon the older patients, will give fair results; but when performed as intubation is, upon young babies, upon bad diphtheritic cases at all ages and among all classes, the results will be disheartening.

My first 150 cases were duly recorded in THE JOURNAL; the remaining cases coming under my care I desire to record at the present time.

It is often said that intubation is performed early and unnecessarily, and that if tracheotomy were performed under the same circumstances the results would be equally brilliant. This is a mistaken idea and I desire to refute it. By the record of these cases it will be seen that nearly all were in the practice of other physicians and I have been called as a last resort, after all other measures had been exhausted, and when it became evident that the patient must die unless relieved. Not infrequently the operation is so long delayed that the patient is dead upon my arrival, and too frequently they are found unconscious, pulseless and comatose. A few of these cases have been so remarkable as to be worthy of special mention.

Case 181.—This patient was not only greatly exhausted from the disease, but also by previous attempts at intubation which had been unsuccessful. Upon arriving, the patient was found unconscious, pulseless at the wrist and upon the very verge of suffocation. A tube was quickly

introduced and artificial respiration performed. The child soon revived, wore the tube four days and made a perfect recovery.

Case 191 was another that was pulseless and unconscious and required artificial respiration, but is living and well to-day. Drs. Kippax, Guerin and Jacques were present at the operation and will verify this report.

Case 226.—Upon arriving I was informed by Dr. Case, the attending physician, that it was *too late*, the boy was dying. The sphincters had relaxed, the eyes were rolled upward, he was livid, unconscious and pulseless, and within five minutes undoubtedly would have been dead. With the remark that we would give him a chance for life, a tube was quickly introduced and artificial respiration performed. He fully revived and wore the tube three days, when it was ejected. The dyspnœa returned and it became necessary to reintroduce it. In four days it was removed and the child made a perfect recovery.

Case 254.—This was a case in which the constitutional symptoms were very severe and the diphtheritic membrane not only covered the whole pharynx but also invaded the larynx, trachea and bronchial tubes. Upon introducing the tube, membrane was pushed down in front of it. It was immediately withdrawn, when a long strip of membrane was ejected. The tube was reintroduced. Two days later there was evidence of membrane below the tube; it was removed and a membranous cast of the trachea ejected. On the seventh day after the operation the patient was able to do without the tube. The respiration, although easy, was rapid on account of the extension of the membrane to the bronchial tubes. The child was very much prostrated from the very beginning of the disease, and the heart's action was feeble and rapid; she was tided along, however, from day to day with an abundance of nourishment, stimulants, digitalis, strychnia and ammonia. Gangrene occurred in the toes of both feet, they becoming cold and black. Gangrenous spots were also seen upon the legs between the knees and the feet. Although the respiration became natural the circulation became more rapid and feeble, and the child died ten days after the tube was removed.

Case 252.—In this case the pharyngeal symptoms were mild, no membrane being visible in the pharynx, but the child was dying from suffocation due to laryngeal obstruction. The tube was introduced, giving prompt relief. Two days later it was evident that membrane was present below the tube, and when it was removed a partial cast of the trachea was expelled. As the respiration was still greatly impeded, the tube was reintroduced. Two days after this it again became evident that there was partially detached membrane below the tube. It was also evident that membrane had extended into the finer bronchi. The tube was removed and this membranous cast was ejected, which you will observe is a cast of the whole trachea and the two larger bronchial tubes. The patient was now able to breathe comfortably, and made a perfect recovery.

Case 257.—This patient was a baby only 15 months of age, a child of the poorest of Italians. The small room occupied was so filthy and crowded that tracheotomy never would have been considered for a moment. The baby was dying of suffocation when the operation was performed. The tube was coughed out on the second day and it became necessary to reintroduce it. On the fourth day it was removed and the child recovered.

Case 259.—This patient was a little girl 6 years old. The surroundings were even more wretched than in the previous case. The furniture of the room consisted of two old chairs, a rickety table, a small round stove and a sporting bull-dog. Everything was filthy in the extreme. The child was found to be suffering from a semi-malignant form of diphtheria. The nasal cavities were invaded, the pharynx covered with diphtheritic membrane, while the difficult respiration indicated that the larynx was invaded. The odor from the decomposing membrane in the throat was most offensive. The throat had been torn, bruised and lacerated by previous unsuccessful attempts at intubation, and the child's condition seemed most deplorable—so much so that one of the physicians present stated, with some vehemence, that if this patient recovered there was a *God in heaven and antiseptic surgery a delusion*. A tube was quickly introduced, which was coughed out on the fourth day, and perfect recovery followed. This case seemed miraculous to all who witnessed it.

These cases are only a few out of many of the same character, but sufficient, I hope, to prove to you that the operation is not performed early, unnecessarily or upon selected cases.

In Regard to After-Treatment.—The same line of treatment that has been instituted before the operation should be continued just as faithfully afterwards. In case the pharyngeal symptoms are severe and the nasal cavities invaded, antiseptic washes and frequent doses of iron are indicated. Where the pharyngeal symptoms are mild and the disease manifested principally in the larynx, with a tendency to extension downward, the bichloride of mercury should be vigorously employed. During the past two years, in those cases where the treatment has been noted, the following results have been obtained: In ninety-nine cases where the bichloride of mercury was administered there were fifty recoveries, or 50.5 per cent. In twenty-six cases where it was not administered there were nine recoveries, or 34.61 per cent.

Care of Patient.—The success attending the treatment of croup by intubation will depend, first, upon the delicacy and skill with which the operation is performed; and second, upon the care

TABLE OF CASES.

Case.	Age.	Date.	Consultation with.	Termination.	Cause of Death.	Tube Worn.	Time of death after op't'n	Diphtheritic Symptoms.
		1888						
151	18 mos.	March 30.	Dr. Steele	Fatal	Extension to bronchi	36 hours.	36 hours.	Severe.
152	4½ years.	" 31.	Dr. Scudder	"	Detachment of membrane	2 days.	2 days.	"
153	2½ years.	" 31.	Dr. Colwell	"	Extension to bronchi	2 days.	2 days.	Very severe.
154	2½ years.	April 5.	Dr C. C. Sperry	"	" "	2 days.	2 days.	Severe.
155	18 mos.	" 13.	Dr. Abel	"	" "	36 hours.	36 hours.	"
156	5½ years.	" 13.	Dr. B. D. Foster	Recovery		6 days.		Very severe.
157	18 mos.	" 14.	Drs. Guerin and Quine	Fatal	Detachment of membrane	12 hours.	12 hours.	Severe.
158	15 mos.	" 19.	Dr. E. E. Babcock	"	Extension to bronchi	2 days.	2 days.	"
159	3 years.	May 13.	Dr. Harris	Recovery		3 days.		Well marked.
160	5 years.	June 2.	Dr. Charles R. Caldwell	"		4 days.		Severe.
161	18 mos.	October 15.	Dr. Murdoch	"		4 days.		Well marked.
162	4 years.	" 18.	Dr. Simons	"		4 days.		Severe.
163	4 years.	" 25.	Own practice	Fatal	Extension to bronchi	3 days.	3 days.	Well marked.
164	6 years.	" 28.	Dr. Jacobs	Recovery		3 days.		"
165	6 years.	Nov. 1.	Own practice	"	[tube.	2 days.		Severe.
166	2 years.	" 4.	" "	Fatal	Sudden suffocation after ejection of	2 days.	2 days.	"
167	3 years.	" 12.	Dr. E. E. Babcock	"	Extension of membrane	3 days.	3 days.	"
168	1 year.	" 13.	Dr. Burr	"	Obstruction below tube	1 day.	1 day.	"
169	4 years.	" 14.	Dr. Beery	Recovery		4 days.		"
170	7 years.	" 15.	Dr. Tillolston	Fatal	Exhaustion	2 days.	3 days.	Malignant.
171	1 year.	" 25.	Dr. Stout	"	Extension to bronchi	2 days.	2 days.	Severe.
172	7 years.	" 27.	Dr. O'Malley	Recovery		4 days.		Semi-malign'nt
173	18 mos.	" 30.	Drs. Jacques and Steele	"		2 days.		Mild.
174	7 years.	Dec. 2.	Dr. C. E. Caldwell	"		5 days.		Severe.
175	4 years.	" 3.	Dr. G. W. Webster	"		5 days.		Semi-malign'nt
176	4 years.	" 11.	Dr. Jacobs	Fatal	Extension to bronchi	6 days.	6 days.	Severe.
177	4 years.	" 16.	Dr. Giljohann	Recovery		4 days.		"
178	12 years.	" 20.	Drs. Rockwell and Gee	Fatal	Detachment of memb. below tube	2 days.	2 days.	"
179	4 years.	" 23.	Dr. Miller	"	Exhaustion	7 days.	7 days.	Very severe.
180	4 years.	" 25.	Drs. Banga and Broeil	"	Detachment of memb. below tube	24 hours.	24 hours.	Severe.
		1889						
181	8 years.	January 1.	Dr. Jacques	Recovery		4 days.		"
182	6 years.	" 2.	Dr. Church	"		4 days.		"
183	18 mos.	" 5.	Dr. A. L. Thomas	Fatal	Extension of membrane	2 days.	2 days.	"
184	17 mos.	" 10.	Dr. Parsons	"	Exhaustion	12 hours.	12 hours.	Malignant.
185	2½ yrs.	" 14.	Dr. Harry L. Thomas	"	Extension of membrane	24 hours.	24 hours.	Severe.
186	18 mos.	" 18.	Dr. Miller	Recovery		3 days.		"
187	5 years.	" 24.	Dr. Barrows	"		4 days.		"
188	2½ yrs.	" 27.	Dr. Whidden	"		4 days.		"
189	3½ yrs.	Feb'y 17.	Dr. Giljohann	Fatal	Extension of membrane	3 days.	3 days.	"
190	4 years.	" 19.	Dr. Abel	"	Exhaustion	4 days.	8 days.	"
191	7 years.	March 11.	Dr. Kippax	Recovery		12 hours.		"
192	5 years.	" 14.	Dr. Simons	Fatal	Exhaustion	24 hours.	24 hours.	Malignant.
193	3 years.	" 18.	Dr. Beery	Recovery		3 days.		Severe.
194	7 years.	" 19.	Drs. Steele and Babcock	"		2 days.		"
195	2 years.	" 25.	Dr. Steele	Fatal	Exhaustion	5 days.	5½ days.	"
196	4 years.	" 26.	Dr. Jacobs	"	Extension of membrane	3 days.	3 days.	"
197	6 mos.	April 2.	Dr. Whitman	"	" "	24 hours.	24 hours.	"
198	8 years.	" 8.	Drs. Mitchel and Gatchel	"	Exhaustion	24 hours.	24 hours.	Malignant.
199	6 years.	" 10.	Dr. Stowell	"	Extension of membrane	2 days.	2 days.	Severe.
200	4 years.	" 14.	Dr. Hall	"	" "	7 days.	13 days.	"
201	4 years.	" 16.	Dr. Jacobs	"	Detachment of membrane	4 days.	4 days.	"
202	2½ yrs.	" 20.	Dr. Streeter	"	Extension of membrane	2 days.	2 days.	"
203	4 years.	" 29.	Dr. Streeter	"	Exhaustion	3 days.	10 days.	Semi-malign'nt
204	3 years.	May 1.	Dr. Merowitz	Recovery		3 days.		Severe.
205	4 years.	" 6.	Dr. C. E. Caldwell	"		3 days.		"
206	3½ yrs.	" 14.	Dr. Kewley	Fatal	Detachment of membrane	24 hours.	24 hours.	"
207	3 years.	" 27.	Drs. Nelson and Bosworth	Recovery		4 days.		"
208	2½ yrs.	" 28.	Dr. Stroe	Fatal	Extension of membrane	24 hours.	24 hours.	"
209	4 years.	June 1.	Dr. McArthur	Recovery		5 days.		"
210	8 years.	" 9.	Dr. Steele	Fatal	Measles	2 days.	2 days.	"
211	4 years.	" 10.	Dr. Brill	Recovery		9 days.		"
212	5 years.	" 15.	Dr. Brinkerhoff	"		5 days.		"
213	4 years.	" 20.	Dr. Winrow	Fatal	Extension of membrane	4 days.	4 days.	"
214	17 mos.	July 31.	Dr. Brill	Recovery		5 days.		"
215	18 mos.	August 2.	Dr. Mercer	Fatal	Extension of membrane	2 days.	2 days.	"
216	4 years.	" 16.	Dr. Rutherford	"	Exhaustion	9 days.	9 days.	"
217	7 years.	" 21.	Dr. Eskridge	"		36 hours.	36 hours.	Malignant.
218	3 years.	Sept. 2.	Dr. Rutherford	"	Extension of membrane	36 hours.	36 hours.	Severe.
219	3 years.	" 18.	Dr. J. G. Berry	Recovery		4 days.		"
220	4 years.	Oct. 4.	Dr. Willard	Fatal	Detachment of membrane	3 days.	3 days.	"
221	18 mos.	" 4.	Dr. Pynchon	"	Exhaustion	36 hours.	36 hours.	"
222	2½ yrs.	" 6.	Own practice	Recovery		5 days.		Mild.
223	5 years.	" 7.	Dr. Whitman	Fatal	Extension of membrane	3 days.	3 days.	Severe.
224	5 years.	" 9.	Drs. Sullivan and Berry	Recovery		5 days.		Well marked.
225	2½ yrs.	" 9.	Dr. Egan	Fatal	Extension of membrane	2 days.	2 days.	Severe.
226	4 years.	" 10.	Dr. Case	Recovery		6 days.		"
227	3 years.	" 12.	Dr. E. R. Bennet	"		3 days.		"
228	18 mos.	" 14.	Dr. Hall	Fatal	Extension of membrane	2 days.	2 days.	"
229	9 mos.	" 18.	Dr. Rutherford	Recovery		4 days.		"
230	3 years.	" 21.	Dr. E. R. Bennett	Fatal	Unknown	24 hours.	24 hours.	"
231	9 years.	" 27.	Dr. Gee	"	Extension of membrane	2 days.	2 days.	"
232	3 years.	" 30.	Bosworth and Creighton	"	" "	2 days.	2 days.	"
233	3 years.	Nov. 3.	Dr. J. Bell	Recovery		4 days.		"
234	3½ yrs.	" 5.	Dr. C. O. Davis	Fatal	Extension of membrane	2 days.	2 days.	"
235	5 years.	" 5.	Dr. Whitnall	"	" "	4 days.	4 days.	"
236	2½ yrs.	" 8.	Dr. Leavett	"	Detachment of membrane	2 days.	2 days.	"
237	3 years.	" 10.	Dr. Goodall	"	Extension of membrane	2 days.	2 days.	"
238	4 years.	" 13.	Dr. J. G. Berry	"	" "	2 days.	2 days.	"
239	4 years.	" 14.	Dr. McGaughey	"	" "	2 days.	2 days.	"
240	5 years.	" 19.	Dr. Harris	"	Pneumonia	36 hours.	36 hours.	"
241	13 mos.	" 20.	Dr. Roberts, of Lemont	"	Extension of membrane	36 hours.	36 hours.	"

TABLE OF CASES—CONTINUED.

Case.	Age.	Date.	Consultation with.	Termination.	Cause of Death.	Tube Worn.	Time of death after op't'n	Diphtheritic Symptoms.
2452	3 years.	Nov. 28.	Own practice	Recovery		8 days.		Severe.
2453	3 years.	Dec. 3.	Dr. Creighton	"		4 days.		"
2454	5 years.	" 4.	Greenfield, W. C. Caldwell	"		9 days.		"
2455	2½ yrs.	" 11.	Dr. Champlin	Fatal	Extension of membrane	36 hours.	36 hours.	"
2456	2 years.	" 30.	Dr. Butler	"	" " "	2 days.	2 days.	"
2457	10 years.	" 30.	Dr. Waldemeyer	Recovery		4 days.		"
		1890						
2458	4 years.	January 5.	Dr. Wing	Fatal	Exhaustion	36 hours.	2½ days.	"
2459	3 years.	" "	Dr. Taylor	"	Extension of membrane	36 hours.	36 hours.	"
2460	4 years.	" 6.	Dr. Dahlberg	"	" "	48 hours.	48 hours.	"
2461	9 years.	" 16.	Dr. Daugherty	"	Pneumonia	3 days.	3 days.	"
2462	4 years.	" 16.	Dr. Harris	Recovery		4 days.		"
2463	6 years.	" 26.	Dr. R. G. Collins	Fatal	Uræmic convulsions	3 days.	3 days.	Very severe.
2464	6 years.	" 27.	Dr. A. S. Thomas	"	Gangrene of foot	7 days.	14 days.	Malignant.
2465	4 years.	" 30.	Dr. Bacon (Englewood)	"	Exhaustion	2 days.	2 days.	Very severe.
2466	4 years.	" 30.	Dr. Greenfield	"	Unknown	2 days.	2 days.	Severe.
2467	15 mos.	Feb'y 2.	Dr. Volini	Recovery		4 days.		Well marked.
2468	4 years.	" 8.	Dr. Steele	"		5 days.		Very severe.
2469	8 years.	" 11.	Drs. Bates and Church	"		4 days.	" "	" "
2469	9 years.	" 20.	Dr. Riley	Fatal	Exhaustion	2 days.	2 days.	" "
2471	4 years.	" 21.	Dr. Byrne	Recovery		7 days.		Severe.
2472	7 years.	" 21.	Dr. Flood	"		4 days.		"
2473	18 mos.	" 24.	Dr. Quine	Fatal	Extension of membrane	24 hours.	24 hours.	Very severe.
2474	6 years.	" 25.	Dr. Flood	"	" "	3 days.	3 days.	Severe.
2475	4 years.	" 25.	Drs. Earle and Herrick	Recovery		21 days.		Well marked.
2476	3 years.	March 1.	Dr. P. S. Hayes	"		6 days.		Severe.
2477	11 mos.	" 6.	Dr. C. R. Caldwell	Fatal	Extension of membrane	48 hours.	48 hours.	"
2478	15 mos.	" 6.		"	" "	48 hours.	48 hours.	"
2479	3 years.	" 15.	Dr. Simons	"	Detachment of membrane	12 hours.	12 hours.	"
2480	3 years.	" 16.	Dr. Parsons	"	Extension of membrane	4 days.	4 days.	"
2481	3 years.	" 18.	Dr. Earle	Recovery		3 weeks.		Well marked.
2482	5 years.	" 19.	Dr. McWilliams	"		5 days.		Severe.
2483	4 years.	" 27.	Drs. Shepherd and Jones	"		4 days.		"
2484	7 years.	April 2.	Dr. Bangs	"		4 days.		Well marked.
2485	20 years.	" 7.	Dr. Rockwell	Fatal	Exhaustion	36 hours.	36 hours.	Malignant.
2486	2½ yrs.	" 10.	Dr. Froom	Recovery		3 days.		Well marked.
2487	7 years.	" 11.	Dr. Kewley	Fatal	Extension of membrane	24 hours.	24 hours.	Malignant.
2488	10 mos.	" 13.	Dr. Casely	Recovery		2 days.		Well marked.
2489	4 years.	" 15.	Dr. Coy	"		5 days.		Severe.
2490	1 year.	" 18.	Dr. Creighton	Fatal	Exhaustion	2 days.	2 days.	"
2491	5 mos.	" 22.	Drs. Earle and Herrick	"	"	10 hours.	10 hours.	Well marked.
2492	4 years.	" 28.	Dr. James Bell	"	Extension of membrane	2 days.	2 days.	Severe.
2493	2 years.	" 29.	Drs. Earle and Fitch	Recovery		5 days.		Very severe.
2494	5 years.	May 1.	Dr. Fitzpatrick	Fatal	Detachment of membrane	12 hours.	12 hours.	Severe.
2495	5 years.	" 3.	Dr. Schmidt	Recovery		2 weeks.		"

SUMMARY.

One hundred and fifty cases previously reported, with forty-one recoveries, or 27.33 per cent.

Present report of one hundred and thirty-five cases, with fifty-nine recoveries, or 43.70 per cent.

Total, 285 cases, with 100 recoveries, or 35 per cent.

The ages have been as follows:

Under 1 year,	10 cases with	3 recoveries, or	30	per cent.
Between 1 and 2 years,	37 "	9 "	24.32	"
" 2 and 3 years,	46 "	10 "	21.76	"
" 3 and 4 years,	47 "	17 "	36.17	"
" 4 and 5 years,	39 "	23 "	58.98	"
" 5 and 6 years,	27 "	14 "	51.85	"
" 6 and 7 years,	18 "	7 "	38.88	"
" 7 and 8 years,	20 "	9 "	45.00	"
" 8 and 9 years,	7 "	4 "	57.14	"
" 9 and 10 years,	6 "	3 "	50.00	"
" 10 and 11 years,	3 "	1 "	33.33	"
At 12 years,	2 "	0 "	00.00	"
At 13 years,	1 "	0 "	00.00	"
At 14 years,	1 "	0 "	00.00	"
At 20 years,	1 "	0 "	00.00	"
	285 cases,	100 recoveries, or	35.00	per cent.

There were ten cases under the age of one year; of these, one was five months old, one six months, four were nine months, two ten months, and two eleven months of age. Among those to recover after the operation were two nine months old and one of ten months.

There were 93 cases under three years of age, with 22 recoveries, or 23.65 per cent.

There were 193 cases over the age of three years, with 78 recoveries, or 40.62 per cent.

and judgment exercised in the subsequent management of the case. One of the greatest dangers following intubation is from detachment of membrane below the tube. When the tube is introduced, if membrane is pushed down in front of it and there is evident obstruction, it should be removed at once. The expulsive cough that follows will expel the membrane. One must exercise the greatest judgment in the selection of the proper tube. A tightly fitting tube that could not be expelled when membrane became detached below it, has been the cause of many a death. There are always indications of membrane below the tube, and one should be constantly on the alert and anticipate the dangers that constantly threaten. A peculiar hoarseness to the cough, and sometimes a flapping sound as the membrane is forced up against the bottom of the tube, are indications that should never be unheeded. Under these circumstances the tube should at once be removed, and the expulsive cough following will in the great majority of cases expel the membrane. Some advocate performing intubation first and tracheotomy later if necessary. This will rarely be required if these indications are duly appreciated and properly met. In this manner complete casts of the whole trachea, and often of the larger bronchi, can be secured just as effectively as by a tracheotomy, and with much less danger to the patient.

We cannot consider the surgical treatment of croup without reference to tracheotomy. It is an operation that will always have a place in the

treatment of this disease. Intubation is an operation requiring so much delicacy and skill that its employment will be limited to those specially favored. Those who have not had special training or who are not unusually dextrous should never attempt intubation, but should resort to the older operation.

While there are some who have but little faith in tracheotomy and who question its utility, yet statistics prove conclusively its value as a life-saving operation. Recoveries from tracheotomy amount to about 26 per cent. In 1886 it was my pleasure to collect reports of 306 cases operated upon in Chicago with 58 recoveries, or 18.95 per cent. Agnew[1] (1878) reports 11,696 cases with recoveries amounting to 26.25 per cent.

Monti[1] (1884, Vienna) 12,736 cases with 26.8 per cent. of recoveries. Lovett[1] and Monroe, 21,853 cases performed in various parts of the world, with 28 per cent., while Mastin[1] has collected reports of 862 cases operated upon in the United States with recoveries amounting to 26 per cent.

It must be admitted, however, that individual operators often present a much larger percentage of recoveries. On the other hand, some meet with almost uniform failure, and their cases are never reported. Thus it has come to my knowledge that one operator has performed tracheotomy one hundred times with but one recovery, another fifty times with two recoveries, another twenty with one, another fourteen with none, and another eight with none, making a total of 212 cases with but four recoveries, or 1.88 per cent.

In operating the slow method is to be preferred when there is sufficient time; the tissues being carefully dissected and blood-vessels avoided or ligated. After the trachea has been opened all loosened membrane should be removed before the tracheotomy tube is inserted. The wound should be frequently dressed with antiseptics, and a pad of antiseptic gauze constantly worn over the tracheotomy tube. Feathers and brushes should not be introduced into the trachea, as is too frequently done. As little irritation should be produced as possible, and for the purpose of dissolving the sticky secretions that collect in the trachea and for exciting coughing by which to cause their expulsion, a warm alkaline solution should be employed instead, either by an atomizer or by pouring it directly into the tube. In case membrane is present below the tube, papyotin, tripsin or a saturated solution of pepsin may be employed for the purpose of dissolving it. The tube should be removed and cleansed as required, and it should be remembered that unremitting care and attention is the price of success.

SOFT-HANDED SONS OF TOIL.—This is the classification of our craftsmen according to Dr. Holmes.

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[1] Cyclopædia of Diseases of Children, Vol. II.

REPORT OF A CASE OF LEFT LATERAL HOMONYMOUS HEMIANOPSIA WITH A WOUND IN THE OCCIPITO PARIETAL REGION.

Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY ROBERT TILLEY, M.D.,
OF CHICAGO, ILL.

Cases of well-defined lateral homonymous hemianopsia must ever, in the nature of things, be rare; and such phenomena arising from a wound and uncomplicated with other symptoms, must, if possible, be still rarer. Of course, the impossibility in this case of demonstrating the actual abnormal state of the involved part of the brain detracts from its interest; but there are several questions which arise in connection with such a case which may be profitably passed in review. I will first report the case:

W. S., male, 21 years of age, came to the clinic at St. Lukes's Hospital, Chicago; he had previously been to another institution in the city, but, as he was complaining of a noise in the ears, he was referred to the ear department and no observation seems to have been made of the eyes. He still complained of a noise in the head on the left side, but he complained also of the loss of the left half of vision of the left eye. He assured me that the right eye was "all right." I was examining, when I first saw him, the patients before some students of the Chicago Medical College, and after making a rough finger test of the field of vision of the left eye, and finding his statement relative to the loss of the left half of the left eye correct, I accepted his statement relative to the right eye, and discussed with the students the possible conditions which might bring about such a phenomenon; at the same time remarking that it seemed impossible for any pathological condition of the optic nerve or chiasm to produce such a clear cut vertical hemianopsia of one eye. The fundus was examined and nothing abnormal was found; no optic neuritis, no detachment, no atrophy, no choroiditis. The pupil was a little larger than its fellow on the right. No definite conclusion was reached that day as to the cause of the difficulty. On examining him next day with the perimeter, the observation was extended to the right eye and the patient was astonished to find that his right eye was affected in an exactly similar way. Whilst previously traces of syphilitic infection were vigorously sought for without result, attention was now immediately directed to the posterior part of the head. The following history was then obtained, in part from the patient and in part from his mother: at the close of January, or the early part of February, he was, when the worse for liquor, struck on the back of the head with a tin pail; he walked about a block to his home after receiving the

blow and when within a few steps of the door was found senseless several hours after the blow was inflicted. The mother reports that he was not fully conscious till nine or ten days after the injury; that the doctor called in said that the injury on the head was a scalp wound but that the skull might be injured beneath. No sutures were used for the wound.

There was no paralysis of any kind, no difficulty of speech, nothing abnormal noticed about sensations. The one thing that the mother noticed was that while in bed he seemed to reach out for things as though he could not see; after he was up he was constantly mistaking his way by going into one room when he intended to go into another. Questioned relative to the size of the left pupil, the mother and patient report that they have for several years previously noticed that the left pupil was at times larger than the right and that he had experienced and spoken of the noise in the left side of the head several years prior to the wound on the head.

Examination of the eyes showed the external appearance normal in every respect, except that the left pupil was larger than the right, movements of eyeball normal, pupillary reflexes normal, the left pupil a little sluggish, convergence normal. Accommodation good and binocular vision, as shown by stereoscope, good. V. R. E. $\frac{1}{1}$, 0.5 easily, L. E. $\frac{1}{1}$, 0.5 but has to focus a little nearer, he does not, however, accept minus lenses. He can read readily without inconvenience.

Ophthalmic examination.— The only abnormal condition in the fundus was a slight choroidal crescent in the infero-external segment of the O. D. more marked in the left than in the right eye. There was no optic neuritis in either eye. I looked on several occasions for this on account of the effort made by Drs. Edmonds and Lawford to explain the existence of optic neuritis in the various cerebral affections.[1]

V. F.—The observations were made with a small shaded electric lamp in a dark room for the sensation of light, with the finger, and for the color red with the perimeter. The clearness and accuracy with which he recognized in the region to be indicated both the finger and the red object, and the total lack of evidence that he had any conception of its presence before that point, showed that the case was one of a well defined homonymous hemianopsia, the line of vision being practically vertical except in the immediate region of the point of fixation. The exhibition to you of the actual chart taken with a Steven's registering perimeter, will give you a more accurate idea of the field than any words can. It is illustrated by the diagram Fig 1. You see that the line is nearly vertical except about the fixation point, where it extends gradually to about five degrees to the left of the median line. Several charts were taken at different intervals but they varied very slightly, the variations being rather in the periphery than in the central line.

Left eye. Right eye.

RECOGNITION OF RED.

To demonstrate the action of the iris a light was brought into the dark part of the field of vision, a dark card was placed vertically in front of the eye, so as to cover as accurately as possible the half of the pupil through which the left half of the retina received its light, and a small electric lamp suddenly illuminated, and the irides were always seen to contract on the appearance of the light. It was thus apparently demonstrated that the existing lesion was situated not in the optic tract but in the cortical region; and, as it involved the left half of the field of vision, the lesion should be found in the right cerebral hemisphere. The external wound on the head was located four inches and a half forward from the occipital protuberance, and the center of the wound was five-eighths of an inch to the right of the median line. The demonstrations were made in the presence of Dr. J. E. Owens, Senior Surgeon of St. Luke's Hospital, the internes, and some students. The patient was also seen by Drs. S. J. Jones and Moyer, and the whole examination was repeated in the presence of Dr. Church, of Chicago, Sunday, May 10. There existed no other manifest lesion. No difficulty in walking, no hyperæsthesia or anæsthesia. The only record of temperature that I have is 97.4° on March 27, and I regret that I have not repeated the observation.

At the latter part of March the question of operative measures for relief was suggested to the patient and his mother. After reflection he said: "I can now attend to my work, I can dance and play baseball—preferably at first base—and I will be satisfied with that."

I should add that although there was no syphilitic history, I kept him for a few weeks under mercurial treatment, and to my astonishment the previous existing difference in the pupils disappeared, so that I have not been able to observe it for about three weeks. There is, however, no difference in the general field of vision. The noise on the left side of the head referred to in the ears, is not so troublesome to him. There was nothing visible in the ear that would seem

[1] See Transactions Ophthalmological Society, Great Britain and Ireland, Vol. vii, 1887.

to account for the existence of the noise; and it must not be forgotten that it existed before the wound and before the hemianopsia.

The patient claims to have been previously troubled with a tape worm. I simply mention this in order to put before you all the possible factors which may enter into the phenomenon. It is not impossible that the difficulty may be caused by the presence of a cysticercus located in the right cuneus. As the hemianopsia came on, however, suddenly, it is very improbable. It must, however, be remembered that the patient was not himself aware of the presence of the difficulty in the right eye until it was demonstrated to him.

The question arises here: Is the phenomenon associated with the external wound found on the head? There is nothing suspicious about the wound itself. The scalp is freely movable over the bone. There is no tenderness on pressure or when percussed. The region of the wound is a little—say about half an inch—anterior to the commencement of the occipital lobe; it is located a little—five-eighths of an inch—to the right, favoring the theory of an injury to the right rather than the left cuneus, which is just what we should expect to establish the theory. That the lesion is not in the optic tract is probably proven by the pupillary reflex when the light is thrown upon the pupil from the blind half of the field of vision with the functional half protected with a dark card.

Supposing it to be proven, as far as any case can be proven under the circumstances, that the lesion is in the accepted cortical area for vision—the cuneus—is it caused by a depression of the inner plate of the skull or by an extravasation of blood? What is the best advice to give relative to operative measures? In expressing your judgment on this point, as I trust you will, let me ask you not to forget the relation of the longitudinal sinus to the cuneus and the possibility of getting along in life fairly well, especially when the loss of vision is on the left side. As the patient said, he could follow his work, play baseball and dance.

If it was thought wise to recommend an operation, the question of the time that had elapsed since the accident would necessarily cut some figure; but how much? In a consultation with Dr. J. E. Owens about two months after the receipt of wound an operation was recommended, in the expectation that the difficulty arose from a depression in the inner plate of the skull in the region of the cuneus, and that its elevation would result in a restoration of the lost vision.

With your indulgence, I will supplement this contribution with a few notes taken from a case in some respects very similar—in some respects very different—but the final result being as nearly alike as it is possible for two cases to be. The case that I refer to was published before the cortical centers had received such attention as they now have, and the exact location of the injury is not as clearly indicated as it would be in any report of to-day. It was published in the *Irish Hospital Gazette*, Dublin, 1873:

Case of Compound Depressed Fracture of the Skull with Considerable Loss of Brain Substance and Extensive Laceration of the Longitudinal Sinus—Recovery—with Observations. By J. Stannus Hughes, M.D., F.R.C.S.I.

Feb. 5, J. O'B., 35 years. Struck on the back of the head with a heavy iron coal box whilst at work in the hold of a ship. On removing the hair an extensive depressed fracture of the skull implicating portions of the occipital and parietal bones was revealed. Patient was in a state of complete insensibility, but on the removal of the piece of depressed bone an alarming hæmorrhage from the longitudinal sinus set in; on which the patient, without assistance, sat up on the operating table and asked in a loud voice and in a rational manner, "What has happened? Who did it? Is my mother here?"

The several pieces of bone removed were as large as the palm of the hand. Patient recovered completely, as far as the external wound was concerned. But the interesting part is in the examination of the field of vision later.

Ophthalmic Examination by H. R. Swanzy.—The ophthalmic examination reveals no abnormality of any kind in either fundus oculi. The optic nerves, so far as they can be seen, are perfectly healthy. His central vision is nearly normal.

What he does suffer from is a lateral hemianopsia. The defect occupying the right hand side of the field of vision of each eye and dividing the field precisely in the perpendicular meridian, the fixation spot, however, having escaped.

This, of course, indicates some disturbance in the course or at the origin of the left optic tract. What the nature of that lesion may be I am not prepared to say; perhaps a disorganization of the nervous tissues due to an extravasation of blood, perhaps direct injury. Probably you yourself will be able to form the best conjecture on this point, being acquainted with the case from the commencement.

The report of A. H. Jacob and F. Wilson coincided with the above.

Dr. Jackson: I have within a few months, seen a case of hemiamblyopia, with the divisions between the amblyopic portions of the field, as in Dr. Tilley's case. Within the amblyopic field a segment smaller than a quadrant, with indefinite outlines, which was absolutely blind. The reactions of the pupils were quite normal. The condition followed a gunshot wound of the occipital region of the opposite side.

Dr. de Schweinitz described two cases of lateral hemianopsia, the result of gun-shot wound of the head; in one there had been chromatopsia. He thought the presence of cortical hemianopsia, without other symptoms, and in the absence of Wernicke's pupil symptom, practically located the lesion in the cuneus, and referred to the works of Temer, Monk and Seguin. The question of trephining should be decided by the amount of disadvantage and discomfort the patient experienced as well as the amount of good that would result. The intimate relation of a large, venous sinus to the trephine wound did not in itself con-

traindicate the operation, because it had been demonstrated that hæmorrhage from wounds, even of the lateral sinus, could be controlled with remarkable facility by packing.

A PLEA FOR THE GENERAL ADOPTION OF THE AXIS-TRACTION FORCEPS.

Read in the Section of Obstetrics and Diseases of Women at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY JOSEPH HOFFMAN, M.D.,
OF PHILADELPHIA.

In presenting any question concerning the forceps I am well aware that I am treading upon hackneyed ground. Without preface I shall hasten to the statement of my argument for the adoption of the axis-traction forceps. First of all, the use of the forceps is to be considered as an *obstetric procedure*, which before employment, is to be fully justified, both in the interests of the mother and of the child, entirely apart from the convenience or prejudice of the operator. The forceps are to be applied, neither because the mother demands them nor because they are a time-saving convenience for the obstetrician. Their use is strictly a logical one, and must be differentiated from every fallacy of apparent justification. The question has been asked, Can there be a too frequent use of the obstetric forceps? On the other hand, we hear continually of the "abuse" of the instrument. Now, if a part of the practicing obstetricians are in doubt as to whether they shall not use the forceps on every occasion where there is delay or other seeming cause, and if another portion give them only an occasional place in their application, the position of the two must be entirely different. If their application is for obstetric good and not for convenience, which must be conceded, they must save either mother or child, or both, from troubles or dangers she would otherwise undergo. Given a normal pelvis and a normal head and presentation, with normal application of forces, the labor has for its accidental factor the dilatation of its maternal soft parts. Now, if such dilatation, both perineal and cervical, is tardy, it is evident that an early application of the forceps must be accompanied with consequent injury to the maternal structures, while the injury to the child must, or should be small, under skillful application of the instrument. If now, on the other hand, there is free relaxation of all the soft parts and a deviated presentation, or a slight disproportion between the diameters of the fœtal head and those of the pelvis, which uterine contraction and external manipulation have been unable to overcome, thereby prostrating the mother and interfering with the fœtal circulation, the use of the obstetric forceps comes under consideration as a preservative measure, and is directly advantageous, as it can be applied without force or forcible effects upon both mother and child. It is at this point that the general misconception of the use and intention of the forceps arises. Probably it is a teaching fault as well as a learning fault. Once let it be considered that the fœtus in the pelvis is a foreign body like the aching tooth in the jaw, and we have the obstetric forceps and the old tooth-key, similar instruments of torture, both having force as the foundation of the ends they would attain. This idea, unfortunately, even if not confessed, is that followed out by too many obstetricians and obstetrical teachers, whose lectures must indorse, as a resultant of their ideas, pressure forceps, blades useful for leverage, and the like. It makes the forceps a lever or a tongs, with which to pull or pry by force, and loses sight of the principle that it must be for harmless application, the supplement of existing forces—to be used in their lines if they are normal, to restore them if abnormal, and to conserve or reinforce them if they are weak, and to substitute them if under certain conditions they are absent. Once accept and apply these principles and the abuse of the forceps ceases, even in cases where otherwise their application would be questionable. So far as the fœtal head is concerned, in what light must the ordinary obstetrical forceps be considered? From a mechanical standpoint we must see that it works at a manifest disadvantage. Its adaptation to the fœtal head is maintained, no matter what the resistance opposed by the maternal structures, by a maximum pressure at the extremity of the long arm of the lever composing the handles. If the resistance is small, the pressure is not less, but only shorter, owing to the speedy escape of the head, and expends itself to the disadvantage of the mother, in damage to the perineal floor. If this force is not applied the instruments slip, and damage both the fœtal head and the maternal structures. If the resistance is great, the compressing force must be necessarily great to overcome it, while the contusing force upon the maternal structures is proportionate to the resultant of the force expended in the axis of the pelvis and that lost against the pubic bones. In the use of the ordinary forceps this ratio must exist; it is a mechanical necessity and must be overcome, if at all, by mechanical principal efficient according as they approach mechanical exactitude. With this approach to mechanics we must lose sight of all idea of violent force, of which much may be lost and compensated for by additional force. Considered from the standpoint of the fœtus the force expended against the pubis is lost; considered from a maternal standpoint the force becomes harmful in its pressure effects, just as also the additional force by direct pressure upon the fœtal head is harmful. It therefore appears that considered mechanically the ordinary obstetrical forceps is a

defective instrument, permitting neither the satisfactory utilization of the force applied, nor its regulation so as to conform with the principles previously suggested. Now, as the pelvic axis is the line in which all forces must act in order to be effective, it follows that the greater the deviation from a normally formed pelvis, the greater must be the resistance to any force acting outside of or at variance with this axis, and that in cases of pelvic malformation the violence must be correspondingly greater, both to maternal and fœtal structures.

The problem is accordingly presented as follows: Given a resistance we must apply a force which shall work along the axis of the pelvis, and at the same time minimize lost energy and maximize the energy exerted in the axis of the pelvis and which alone is efficient in the expulsion or delivery of the fœtal head. The more nearly this problem is solved the more direct will be the traction, the less will be the force required, and the more natural will be the artificial delivery, or, as has been suggested above, the two will supplement each other. To fulfil the above indications numerous modifications of the common forceps have been invented, among which are those of Hermann, Hubert, Hartmann, Morales, and I think we may justly say, finally culminating in those of Tarnier. These have been essentially modified by Poullet and others. The latest German idea, that of Breus, I regret not to be able to present. It is ably advocated by Winckel, though too much to the exclusion of Tarnier's forceps.

The conformity of the pelvis is such that when occupied by the fœtal head, the problem to bring an ovoid body through a circular canal with a curved axis is presented. Now to accomplish this it is evident that the force should be applied to the centre of the head or fœtal ball, and should act in the centre of the cylindrical passage, the vagina, and at the same time varying in reference to the position of the application of the force as the head descends in the pelvic curve.

The ordinary objection urged against the Tarnier forceps is the danger of rupturing the perineum by the traction apparatus. This is entirely theoretical, as the rods are to be kept parallel with the forceps handle, and when this is done they practically fall within the blades, and can do no damage that would not occur without them. With both Tarnier's forceps and Poullet's modification they of the blunders yet common with many practitioners cannot be perpetrated. I refer more particularly to the so-called pendulum or lever motion of the forceps, and to the rotatory motion advocated by Osiander. These manipulations, while practicable in the ruder arts, have no place in obstetrics, and can result only disastrously to the maternal tissues. It will also be seen that the direction taken by the head as it engages, must be in the path of the least resistance, inasmuch as the traction exerted does not guide, but only applies a force that is directed by the handle, which indicates lateral variations in the descent upon the perineum. These lateral deviations are the foundation of the excuse for the pendulum movements, which are only experimental manœuvers to determine in what direction the head will move most easily.

A brief epitome of the specific positions in which axis-traction is especially advisable is all that can be set down here. First of all, in high operations in which it is desirable to make traction in the pelvic axis and not against the brim, a careful analysis of cases will show that the axis-traction principle offers better results, so far as the mortality of the child and the effects on the maternal structures are concerned, than pressure forceps.

As was before remarked, in deformed pelvis the results must be even more notable. In occipito-posterior positions any tendency of the head to rotate is not interfered with, but is allowed to take place freely. In my hands I have noticed a complete revolution of the blades and, of course, of the head in their grasp. In other occipito-posterior positions, in which the perineum usually suffers severe laceration, the lifting effect of these forceps—which, while bringing the head downward and outward, nevertheless raises it toward the pubes—is peculiar, and cannot be imitated by any other procedure. That of Osiander, while essentially the same in its intent, cannot be compared in its accomplishment.

In the low operation, in which the short forceps are commonly applied, the same effect can be justly claimed. The short forceps, as such, in my estimation, have no place in obstetrics; I have no doubt that of all instruments they inflict the most damage to both mother and child. If, when the head is on the floor of the pelvis there is any need for the application of forceps, the axis-traction principle is the one that fulfils all the indications, expediting labor and at the same time saving the perineum by lifting, not dragging the head through.

The final argument for the general adoption of the axis-traction principle is, that by it the force is applied at the centre of or near the centre of the fenestration, and that hence the leverage effect which must be exerted upon the structures within the grasp of the blades, must cause less direct violence.

ARISTOL.—Aristol, the new substitute for iodoform, is reported by various observers to prove efficacious in many cases where iodoform has been successful. It is said to be non-poisonous and has the very decided advantage of being without odor.

REPORT OF A CASE OF TRANSPLANTATION WITHOUT A PEDICLE FOR CICATRICIAL ECTROPION, BLEPHAROPLASTY? BY WOLF'S METHOD.

Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

BY J. MORRISON RAY, M.D.,

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The increasing number of successful flap operations without a pedicle, induces me to report a case and to urge its more general adoption in cases of extensive cicatricial ectropion.

Geo. Davis, negro, æt. 32, came under observation at the Louisville City Hospital. Six months previously he was blown up by the premature explosion of a blast. The skin of the right side of the face and head was extensively destroyed. The angle of the mouth, ala of the nose, and the forehead were involved in dense cicatricial tissue. The lower lid was entirely destroyed. The upper lid was everted and firmly fixed to the supra-orbital margin. The free border of the lid was well preserved and contained normal cilia; the eyeball was free from injury, but showed conjunctivitis and superficial corneal erosions from exposure. From the amount of cicatrix on the face, a gliding or pedicle flap seemed impossible. The method of Wolf was therefore decided upon. Chloroform was given; the conjunctiva and cul-de-sac were flooded with a warm bichloride of mercury solution, 1–6,000, and the surrounding parts thoroughly cleansed with soap and water and the bichloride solution. The upper lid was dissected from its attachment to the brow. The cicatricial bands were freely divided and the lid margin brought well down, and by four stitches attached to the stump of the lower lid.

This left a surface 2 inches long by 1¼ in width to be filled by transplantation. One small artery bled freely and required twisting. The surface thus exposed was left and the arm prepared. A space measuring 3 inches long by 1¾ in width was mapped out on the left arm to the inner edge of the biceps, as near as possible the shape of the gap to be filled. The field of operation was rubbed well with ether, then with soap and water, and flooded with the warmed bichloride solution. The skin was dissected up by means of a pair of iridectomy scissors, care being taken to get the flap free of all subcutaneous connection and fatty tissue. The flap was surrounded by warmed bichloride gauze. By the time the skin was well loosened up, the oozing from the lid wound had stopped and the surface appeared dry and glazed. The flap was quickly freed, placed on warmed gauze and rapidly transferred to the lid. It fitted well save at one place, where the flap overlapped; a small strip was here cut off by scissors.

No stitches were inserted, but the flap was pressed well down in contact with the cut surface, and the parts covered with moistened gold-beaters' skin. The parts about were smeared with iodoform ointment; over these several layers of iodoform gauze; then a small bit of absorbent cotton, and firmly bandaged. The other eye, which was not injured, was left free.

While the flap was being adjusted in position, my friend Dr. Vance dissected up the edges of the wound in the arm, and brought them as nearly as possible together by a continuous suture, but the piece removed was so large, that complete coaptation was impossible. This wound was also dressed with iodoform gauze and a bandage. The next day the patient was sitting up.

The dressings were not disturbed until the fifth day, at which time all save the gold-beaters' skin was removed. Through this, the transplanted piece looked healthy, and there was no secretion. Iodoform gauze and a light bandage were reapplied and changed daily until the ninth day. At this time the stitches which bound the lid down were cut loose, and the gold-beaters' skin removed.

The flap was firmly united throughout, and on pricking with a pin, sensation seemed to be present. It was now dressed with iodoform ointment and a light bandage.

On the twelfth day, the epidermis began to loosen around the edges of the transplanted skin. On the fourteenth day he was exhibited to the Medico-Chirurgical Society of Louisville, and beyond the desquamation which extended around the edges about ⅛ of an inch in width, the flap looked well. In a few days this came away, leaving a granulating surface surrounding a central portion on which the epidermis was still adherent.

Contraction began at the end of three weeks, and in a short time the surface had contracted to one-third the size of the original surface. Three months and a half after the operation he was last seen, at which time he presented a central portion of healthy integument 1 inch long by ¾ of an inch wide, surrounded with a narrow whitish band which corresponded with the portion for which the epidermis had desquamated. The lid was freely movable and the cornea easily covered.

Flaps as large as this have rarely been successfully transplanted, but it is our belief if care in its adaptation and perfect cleanliness in the work be carried out, it will, in the majority of cases, be successful, and deserving of merit as a plastic procedure. From a study of this case and others recorded, the following conclusions seem justified:

1. If perfect antiseptic and aseptic measures be instituted, large flaps of skin may be successfully transplanted.

2. The flap must be quickly dissected by scis-

sors, free of all connective and fatty tissue, and rapidly transferred to the surface to be filled.

3. Before the flap is placed on the denuded surface, all hæmorrhage must be well stopped.

4. Perfect immobility of the lid must be obtained by stitching its free edge to the lower, or to the cheek, and care taken to have the flap in exact apposition, no air bubbles being allowed under it.

5. Stitches are not required to hold the flap in position, since suppuration at the stitch holds may be a source of infection, and the parts can be held in perfect apposition by gold-beaters' skin or non-contractile collodion.

6. The size of a transplanted piece must be one-third larger than the surface to be filled, since the skin contracts after being dissected loose.

7. The lid must be brought as far down as possible, since the contraction that follows the healing process will lessen the transplanted surface to one-third its original size.

8. The dressings should be left undisturbed for five or six days, in order that firm adhesion may be formed between the surface and the transplanted skin.

9. The surface to be filled must be a freshly denuded one, for if it be a granulating surface, the secretions will lift up the flap, and sloughing follow.

DR. HOTZ, of Chicago: The final result of the transplantation of Wolf's flaps is seldom satisfactory; its shrinkage makes the lower lid turn down again; its thickness makes the upper too heavy. Prof. Thiersch's method is better suited for the upper lid and also good for the lower lid. He takes large flaps of epidermis including the Malpighian layers, shaved off from the arm with a razor. These grafts take much better than Wolf's flaps; they make a thin, light coat like the original skin of the upper lid, so that it can be opened and closed in the most natural manner.

ALCOHOLIC HEREDITY IN DISEASES OF CHILDREN.

Read in the Section of Diseases of Children at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY T. D. CROTHERS, M.D.,
OF HARTFORD, CONN.

A. B. came under my care for home treatment for periodic inebriety. He has used wine on the table at meals for twenty years; for ten years past he had drank in paroxisms. His wife used wine on the table also, and during pregnancy and lactation had used both beer and wine freely. He had two children, one a girl of eight years, the other a boy five years old, both invalids, and had been under constant medical care from infancy, the general diagnosis being scrofula and general anæmia; and both were of pale and delicate appearance, extremely excitable and nervous.

They had continuous irritation of the stomach, from an unrestricted diet of all kinds of foods and drinks, except wine and beer; were very passionate at the slightest opposition to their wishes, and after a period of rage would be greatly exhausted and have a distinct fever for a day or more. The girl had attacks of emotional religiosity, in which she manifested great sorrow and melancholy at her sins, and asked the prayers of all persons she came in contact with; at other times she was precociously bright, and irritable at any opposition to her wishes.

The family physician had no faith in heredity, and treated these various conditions as so many symptoms of threatened organic disorders which his skill and remedies prevented from gaining farther. Both had suffered from rubeola and scarlatina, and were supposed to have never fully recovered. Bronchitis, enteritis, gastritis, neuritis, and various heart diseases, were constantly threatening, and as constantly averted. Finally, death of the physician brought a new man who recognized the alcoholic heredity of these cases, and ordered them to the country where the diet was restricted, and enforced exercise outdoors, and frequent bathing when it could be carried out.

These children had marked nerve and brain instability, with low vitality, and were neurotics, which would of necessity develop insanity, inebriety, or any other form of nerve and brain degeneration; and the rational treatment should have recognized this condition, and given special attention to the diet and surroundings, and the avoidance of all existing causes that would stimulate the brain and nervous system.

A physician wrote me that he had given tincture cinchona to a neurotic child of one year of age, for slight fever which resembled malaria. In a short time the child would cry for the medicine, and only would be satisfied for a little time after it was given; on one occasion it took at once a two-ounce mixture of this drug. He changed to other tonics, but found that nothing would satisfy the child but tinctures. The child was found to have an alcoholic mother, who died soon after its birth, and the alcohol in the tinctures aroused an organic memory which had been inherited.

In private practice, some years ago, I treated a little boy for over five years, for the most confusing and varied disorders and diseases that it was possible to have; he recovered from one disorder only to be prostrated with another. None of them were well defined or clear, and much difference of opinion prevailed among the numerous medical men who were called in consultation. At puberty this boy became a pronounced dipsomaniac, suddenly, and without any special temptation. Years after he came under my care, and

was a chronic case. From a study of his history it was ascertained that his father was an inebriate, and died before he was born. Here was an alcoholic heredity, which had escaped notice; and where the alcoholic neurotic symptoms were not understood.

I think we may confidently expect of the practice of medicine, that in the near future such cases will be treated so successfully that the alcoholic or insane predisposition will be warded off. I have heard of numerous instances of children from infancy upward to puberty, upon which alcohol in any form and in small quantities acted as a hypnotic; in some cases no other medicine could be tolerated, and in some alcoholic heredity was present, and in others it was not clear.

In the study of the early history of inebriates, a great variety of diseases common to childhood appear, and seem to have been more intense than in other children. Such cases seem to have suffered more severely than others from nutrient disorders, shocks, and traumatism; they are freighted with some heredity or predisposition to particular forms of degeneration; the organism has received a certain bias, from which it cannot escape. Alcohol, of all other drugs, seems most potent to impress cell growth and function.

No fact is more firmly established than that alcoholic ancestors will transmit to their children a defective brain and nerve power. The form and shape of this defect and its manifestations will vary widely.

In many cases it may not be prominent until after the higher peripheral brain has reached a certain development, especially in the growth of the emotional and inhibitory centers. In others this defect is seen in infancy, in an abnormal hypersesthesia of the senses, and nutrient disturbances. Some children manifest irritation at all sounds, and all changes of light and surroundings, by continuous crying; the skin or alimentary canal is also very sensitive, and various skin disorders and nutrient troubles follow. Low powers of vitality and slow, irregular growth are common. This condition may continue for years, then gradually disappear, and only re-appear at puberty, or later, in some distinct form of degeneration. Sometimes a marked neurasthenia and anæmia appear in early life and continue up to puberty, then break out into some disease, or develop some hereditary malady.

Another class of children are noted, who come from alcoholic ancestors, by their precocious development of brain and nerve force. They exhibit powers of brain receptivity and instability that is called genius, which give way early to some disease or form of nerve degeneration from various causes. Inebriety, insanity, or both, are very common sequels. Alcohol or opium in any form is almost always a grateful remedy, and is demanded in many instances by the patient. The use of bitters that contain large quantities of spirits is also very popular, and an unconscious organic memory is awakened that rarely dies out.

In some children this craving for spirits is manifest very early. A case of this kind was brought to my notice by Dr. Smith, of New York, where an infant of two months old could only be quieted by a few drops of spirits. Its taste was so pronounced that it would stop nursing at the sight of the person who gave the spirits, and cry until it was gratified. Fortunately, such instances are not common; but the abnormal tastes of children, and their extreme sensitiveness or obtuseness to sensory impressions, and low powers of vitality and recuperation, are often clear symptoms of an alcoholic impression from ancestors.

This alcoholic heredity will be seen in children that manifest extremes of activity, particularly where there is a tendency to the sudden liberation of nerve energies, as in violent passion (grief or joy) or work, play, or study, which is followed by extreme prostration. The child is said to be sullen, morose, or melancholy, then suddenly manifests the other extremes, indicating a great instability of brain cells and functional control. Its life seems to be threatened with fevers, prostrations, and inanitions, accompanied with mental irritations and wandering neuralgias that tax severely the skill of the physician. These conditions may follow other heredities, but they always point to a degree of nerve and brain degeneration or retarded development, and defective co-ordination, that must be recognized in the treatment.

In all cases where alcoholic ancestors, even back to the second generation, can be traced, there are certain predispositions which must be considered in the treatment.

First. A tendency to exhaustion from feeble vitality, and low power of restoration. Tonics and nutriments that have a direct stimulant action on the brain should not be used, such as alcohol and opium, and meat broths. These remedies have a tendency to still further exhaust the vital forces, paralyzing the nerve centers and increasing the carbonaceous matters of the system.

Second. An instability of cell and nerve function, and strong predisposition to develop into some particular form of degeneration, which is practically an exhaustion of the higher brain centers with craving for relief. All stimulants and remedies which act on the brain centers increase the existing degeneration.

Third. There is a special affinity for all nerve stimulants by those higher brain centers. Their use constantly interferes with the natural development of brain energy from food. Thus, alcohol, tea, coffee, and other substances have a peculiar delusive effect.

From these facts it will be obvious that the diseases of children of alcoholic parentage are far more complex, and require greater care. In ad-

dition to whatever disease they suffer from, there is always neurasthenia and defective control of the brain centers, which may come into prominence at any moment, from causes both known and unknown. This hereditary bias and neurotic instability enters into all cases.

The general principles which should govern in the treatment may be grouped as follows: 1. No form of alcohols are safe, and narcotics of all kinds should be used with great care. 2. The diet should not include meats of any kind, because of their stimulating character; while meats contain much food force, they act as stimulants to a brain already over-stimulated and exhausted, and increase the peril of nervous disease. The pathological tendency of all these cases is to become alcohol-takers and meat-eaters, hence the diet should always be non-stimulating and farinaceous, and should be carried out with military regularity. 3. The hygienic treatment is also of the greatest importance; every means and measure which can build up a system, and avoid brain and nerve stimulation, is required. 4. Cases of this character should be guarded against every possible extreme, both in the surroundings and physical conditions that are under the control of the physician. The tendency of all energy and nerve force is to pass off in explosions, which should be counteracted; the diseases they suffer from show this tendency to concentrate and become intensified in certain directions, also to manifest distinct exacerbations. Finally, the fact of an alcoholic heredity in disease of children that we are called upon to treat, gives a wider therapeutical range of possibilities, both in direct and preventive medicine.

Recent studies of alcohol cases show that over seventy per cent. are directly inherited. If this is confirmed by later studies, the treatment of inebriety will in the future begin in infancy, and the higher science and art of medicine will win its greatest triumphs along the line of prevention.

SURGERY OF THE SUPERIOR LARYNGEAL NERVE IN SPASMODIC DISEASE OF THE LARYNX.

Read in the Section of Laryngology and Otology at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY J. P. CREVELING, M.D.,
OF AUBURN, N. Y.

The operation of which I am about to speak is one, as far as I know, new in surgery of the larynx, and one of sufficient severity to preclude its performance except in very rare cases where all other means afford no relief, and when the disease is sufficiently severe, as to render the life of the patient so uncomfortable that any procedure, however grave, if it presents even a prospective chance for relief, becomes justifiable and proper.

It will be seen later on that the merit of the operation is based on the result of two cases only, one of which was seriously complicated. It will also be seen that in the first instance the manifestation of the laryngeal disturbance was not confined to that organ alone but reflected to the lungs, producing asthmatic breathing, not very severe, but enough to give annoyance and excite apprehension.

It was not for this disease, however, that advice was sought, but for one of a much more serious nature; one for which no less severe measures could be adopted. It was in this case that I first noticed the result in the larynx of dividing the superior laryngeal nerve. I did not observe the extreme liability of food to pass into the larynx that I had feared, and therefore was less timid to attempt a similar operation for a purely laryngeal trouble of a less formidable character.

In brief I will give the history of the two cases:

Case 1.—M. C., a female, aged 30, consulted me in September, 1888, for a large irregular tumor situated in the base of the posterior triangle of the right side of the neck, and difficult or asthmatic breathing. The tumor extended down under the muscles toward the median line and rested against the trachea. Examination with the laryngoscope disclosed a tumified and engorged condition of the laryngeal mucous membrane, extending into the pharynx. The epiglottis alone remained normal.

I attributed the throat disease, as well as the asthmatic attacks, to pressure of the tumor, and proceeded to operate without unnecessary delay. The base of the growth proved to be large and nodular, pressing firmly against the trachea and adherent to the carotid capsule. It was quite easily detached from the trachea but it was necessary to remove an inch or more of the capsule of the artery. After the removal was completed the wound was closed, which healed kindly, but neither the breathing nor the laryngeal condition were benefited. She declined throat treatment and all other remedies calculated to relieve the disturbed respiration, because she had anticipated a cure with the removal of the tumor.

In about six months she again presented herself with a growth in the posterior part of the upper triangle of the right side of the neck, and one in the upper half of the anterior triangle of the left side also, extending from the angle of the inferior maxillary down along the side of the thyroid cartilage. In extirpating this last mentioned one it became necessary to divide the superior laryngeal nerve. After recovering consciousness it was observed that she was extremely hoarse, and deglutition somewhat embarrassed, but the difficult breathing had been overcome. From this time on she had no more trouble in that direction. It took a long while for the hoarseness to entirely pass away, and in fact the for-

mer strength of voice was never regained. The first opportunity for making an examination of the larynx was some eight months after the operation, when it was found the vocal apparatus of the left side was feeble and responded with less vigor than the right. This was about the only difference noticed in the two sides.

From the facts stated it is evident the tumors were not the cause of either the throat or asthmatic disturbance, as neither was relieved after the first operation although the growth pressed both the pneumogastric and trachea, and both conditions existed before the second growth appeared.

Case 2 does not present the complications of the one just cited, but is a typical case with the following history:

M. G., female, age 17, applied to me for treatment in January, 1890, stating that for some months past she had had "some trouble with her throat which caused her at intervals to make loud and unnatural noises, accompanied by a jerking of the muscles of the neck and motion of the head. The paroxysms occurred quite suddenly, without warning, and with sufficient frequency to prevent her leaving home without great discomfort from attracting the notice of those near her; that she was becoming nervous and irritable from the continued annoyance, and that she must have some relief at whatever cost." There was no uniformity of tone in the perverted voice: it varied from a high pitch to a low bass or guttural sound. In conversation the voice was thick and rough and some syllables not sounded. Prolonged speaking increased the hoarseness, produced discomfort in the throat and rendered the attacks more frequent.

The disease had been diagnosed as a nerve disorder by all who had treated her, so that she had taken the whole catalogue of tonics, antispasmodics, sedatives, stimulants and electricity, with no benefit.

An examination of the throat disclosed a chronic laryngitis involving the whole tube but more marked on the left side, to which side the left arytenoid body was firmly drawn, resting against the wall of the larynx.

On attempting to sound the vowels the summit of the arytenoid seemed to roll upward and outward, instead of inward to meet its fellow of the opposite side at the median line. No examination could be made during the paroxysm.

The parts were thoroughly cocainized, but while the mucous membrane became pale, and sensibility was reduced to a minimum, it had little or no influence in preventing or modifying the attack. Local treatment was tried for a time but it gave only a negative result. Having in mind the case above mentioned, I concluded to cut down and search out the laryngeal nerve and make gentle traction on it with a view to overcome the spasmodic tendency.

An incision was therefore made just anterior to the carotid pulsation. The dissection was slow, as it will be remembered the superior laryngeal nerve is given off from the pneumogastric high up in the neck above the bifurcation of the artery, and that it passes downward and forward obliquely behind both the internal and external carotid as well as the superior laryngeal artery; and that the nerve divides into an external and upper branch above the bifurcation of the artery.

The nerve was at length found and put upon the stretch by passing a hook behind and lifting it from its bed. It was then traced from the carotid sheath to the point of division. The wound was closed. As soon as she recovered from the chloroform it was noticed that she was equally as hoarse as the preceding case, but that the throat spasm had entirely disappeared. She gradually regained her former voice. As far as known there has been no return of the disease.

From the result in the above two cases it may be inferred:

1. That the superior laryngeal nerve has an important bearing in spasmodic disease of the larynx.

2. That irritation of its terminal fibres as well as of the body of the nerve, may produce spasm of the larynx.

3. That a disturbance of this nerve may be reflected to other parts supplied by the pneumogastric and *vice versa*.

4. That division of the superior laryngeal may not be followed by serious results in the larynx.

5. That proper tension applied to the shaft of the nerve may modify its influence or action on the parts to which it is distributed.

6. That under certain circumstances it may be advisable to stretch or divide the nerve.

7. That the operation should not be performed except to relieve some extreme condition not amenable to other treatment.

ON THE MEDICAL TREATMENT OF DIPHTHERIA.

Read in the Section of Laryngology and Otology at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY WM. H. DALY, M.D.,
OF PITTSBURGH, PA.

Much has been taught of late years, yet little of practical value learned, of the more successful medical treatment of diphtheria. This fact is witnessed by the continued high death-rate. And yet it is still to the medical and not the surgical treatment that the patient must hopefully look for salvation, since, at best, the surgical aspect of intubation and tracheotomy, though valuable aids in the easement of patients, are employed as a last resort in cases that have become desperate and imminently dangerous to life.

I have no intention of attempting to tell you anything new as to the medical treatment of diphtheria, but you will pardon me if I undertake to draw your attention again to a well-tried plan of treatment which I had the honor of bringing to the notice of the profession in a paper entitled "The Simplest and Most Efficient Treatment of Diphtheria," which I read before the Congress of the American Laryngological Association in Philadelphia in 1886. The treatment may be new to your experience as it was recommended and is still uniformly *practiced* by me with more satisfactory results than by any other plan. I say the strict plan may be new to your experience as medical men, since circumstances are so apt to modify, and personal judgment is prone to change any plan from the lines recommended.

Now is it not better to bring again to your notice, after four years further trial, a really *good plan* of treatment, than to undertake to tell you of something that is new and at best only a candidate for that bountiful hospitality which the profession is now extending to everything new and novel, and has done so for the past ten years. We really flourish in an era when novelty, no matter how absurd, can get a lodging place and the best accommodations and willing disciples to propagate a worship of it whether it be pumping gas into the recti of the phthisical patients à la Bergeon, or the injection of an emulsion of the testes of the barnyard fowl into the tissues of the prematurely aged or decrepit.

A novelty is our idol for the day, a medical fad is a trick to lure our poor human frailty, not that we like to deceive but that we are so easily deceived.

Since the article before alluded to, there has been no end of modifications of the plan of treatment there inculcated, each with its advocates, all or nearly all of the methods containing a mercurial. Many of them I have tried, being of a progressive turn, but I have invariably had reason after trial to think better of the results obtained with the calomel treatment pure and simple. I hope no gentleman will hold me to account for not mentioning this or that remedy for the medical treatment of diphtheria, as I am not encyclopedic in my character as a therapeutist in this disease, and do not intend to wander far from the pure calomel treatment until some other plan is so well established by others as to assure me better results than I now get, and that you can get if you will follow the plan as I have, and not handicap the treatment with all sorts of other drugs, local and constitutional. I am not an enthusiast by any means, inasmuch as the success from any plan of treatment I have tried has never been sufficient to make one feel proud of medicine, but of all I know and have tried this is the best; try it, try it as directed, and don't modify it with any of the one hundred and one things that are newer, that theoretically seem as though they ought to be good.

It is admitted on all sides in our profession, that calomel is a most active germicide, and were it soluble in water, would soon displace the bichloride of mercury in surgery, but in diphtheria there is an advantage in being able to give this medicine in powder in large doses in that we get the local germicidal action as well as the constitutional effect, and I am sure that if our remedy is early administered that many of the threatening complications may be prevented. In the personal letters I have received from my colleagues since my first paper concerning this treatment, they tell me some of their patients die suddenly, during apparent convalescence, after all the membrane has disappeared, and they appear to die from heart paralysis or from heart clot.

We all know that the calomel pulse is a slow pulse, and also that the poison of diphtheria is one of great depression of vitality, therefore, in view of the possibility of this accident occurring, it is an important point to keep the patient in a strictly recumbent posture until convalescence is well established and far advanced, and this, in practice, is difficult to inculcate with parents and nurse.

Now, what is the method clinically? We will say, to a child three or four years old, suffering from diphtheria (early recognition and opportunity are, as a matter of course, of the utmost importance with this as with any other plan) give of pure, untriturated or unmixed with sugar, calomel, in two or five grain doses every one, two or three hours, either dry on the tongue and washed down with a little ice water, or, better, given floated on a little ice water in a teaspoon. This is repeated at intervals until free catharsis follows; the stools are to be carefully observed, and when they assume the appearance of having floating in them gelatinous masses of dark, rather brightish green bile, giving them an appearance resembling chopped spinach, or the water-polyps seen in watering troughs, then the intervals of the dose can be lengthened so as to keep up this condition of catharsis to the extent of one to three stools each day. It is not well to diminish the dose, but simply to lengthen the interval, as there is less liability by this means to produce ptyalism. This is an important point and ought to be remembered. It has been a matter of much surprise to me that there is so little depression caused by the exhibition of these large and frequently repeated doses of calomel in diphtheria, and that ptyalism is so infrequent, especially so if the careful observation is made to keep up catharsis, or rather that fluid condition of the contents of the alimentary canal where the osmotic action is toward them from the blood-vessels, and not *vice versa*. Under this condition of treatment the membrane exfoliates and reforms, if at all, with less and less readiness; the fever abates; the prostra-

tion is slowly replaced by brightness and a disposition to activity, which latter should, of course, be prohibited, lest heart paralysis or syncope should suddenly supervene and cause a sudden fatal termination to the otherwise favorably progressing case. One may exhibit two to five doses of the chlorate of potassium intermediately but this I have not found necessary. I have adhered to the calomel in large and frequently repeated doses, with rather light but nutritious fluid diet, and have found it the most efficient of any treatment; and withal so simple for the nurse and so merciful to the patient. The latter is no small factor in the method, when we compare the dreadful struggles of the little sufferer at the sight of the commonly used—shall I not say abusively used—throat brush and bottle, and all the other implements of the more elaborate treatment to this simpler one of getting the child to open his mouth to drop a powder in, followed by a readily accepted spoonful of ice water. There is needed no argument to show which is the most desirable practically; and I can assure you that this needs but a faithful trial to show you the greater efficiency of this over all other plans of treatment in results.

But there are some rules which I beg you will follow faithfully. These are: 1, Give calomel in its purity. 2, Give it in large doses. 3, Give it frequently. 4, Give it until you have the free and characteristic catharsis. 5, Give light, nutritious diet. 6, Give little or no other medicine. 7, Keep your patient recumbent until convalescence is far advanced.

If these simple rules are followed and common sense is allowed to take the place of common prejudice, you will save more of your diphtheria patients by this than by any other method known to modern medicine.

THE EFFECTS OF DRY ATMOSPHERE ON CHRONIC INFLAMMATION OF THE LARYNX AND NARES.

Read before the meeting of the American Climatological Association held in Denver, September 2 to 5, 1890.

BY R. FLETCHER INGALS, A.M., M.D.,

PROFESSOR OF LARYNGOLOGY, RUSH MEDICAL COLLEGE; PROFESSOR OF DISEASES OF THE THROAT AND CHEST, WOMAN'S MEDICAL COLLEGE, ETC.

In this paper it is my object to invite your attention to a subject upon which unfortunately we have little precise information, hoping thereby to elicit a discussion in which the observation of others may help to remove the deficiencies which I am obliged to confess. The views which I shall here express are based on the study of a large number of cases, but I shall make no attempt to present the histories of these cases in substantiation. Most of my patients live in low altitudes, many of which are damp; though I frequently see patients who live in a high and dry atmosphere.

In trying to analyze these cases I have been unable to decide satisfactorily what particular phases of the disease are benefited and what injured by the dry atmosphere. In the majority, I presume at least four-fifths, dryness of the atmosphere seems beneficial, but in some it is certainly injurious. At first sight it would seem that cases in which there is excessive secretion would be benefited by residence in a dry atmosphere, whereas those suffering from the opposite condition would be injured, but numerous cases attest that this does not follow in all instances: for example, in simple chronic rhinitis with excessive discharge, we find a given number of patients improved by removal from the shores of large bodies of water inland, but a limited number of cases with the same disease will be benefited by moving from inland districts to the damp climate of the sea shore, or the borders of our great lakes. We find now and then a patient greatly improved by going to a high altitude with a dry atmosphere, but usually catarrhal cases are injured by this change.

The more we see of these diseases, the more we are impressed with the fact that catarrhal inflammations are found alike in the damp, chilly atmosphere of the sea shore, or upon the arid plains of Arizona, in the most favored localities of our southern States, and in the delightful atmosphere of Colorado, though not to the same degree in each section.

We may assume that the inflammatory affections of the nares and larynx are essentially of the same character, and that therefore they will be influenced in a like manner, though in different degrees, by various climatic conditions.

These affections we will therefore class together as catarrhal excepting in those instances where we use a qualifying phrase, as for example, tubercular laryngitis.

Usually these catarrhal affections are less frequent in warm climates, therefore, a warm, equable atmosphere would seem best adapted for their prevention or cure. However, in equable climates the air is loaded with moisture, a condition which undoubtedly favors the development and maintenance of certain forms of catarrhal inflammation, yet the opposite condition of dryness also has its disadvantages, for it favors the formation of dust and allows the air to be laden with various irritating substances which might be absent in the damper atmosphere. As certain impalpable substances in the atmosphere cause asthma, so in some cases similar substances will excite chronic inflammation of the mucous membrane of the upper air passages. The damp, and often chilly atmosphere of the Atlantic sea shore, and the sudden changes along the borders of our great lakes are peculiarly favorable to the devel-

opment of this disease. Nevertheless, a considerable number of the cases that come to those of us who practice in these localities have originated inland. We frequently find that a person having developed the disease in any given locality will be relieved of it by a change to some other locality, though the latter may be either dryer or more moist than the original residence. I know many that are afflicted with the disease upon the shores of Lake Michigan, who, upon going but a few miles into the country are at once relieved. I have known those who could not live with comfort on the sea shore to have but little difficulty upon the shores of our lakes. I have seen those who have attributed their whole trouble to the sudden and severe atmospheric changes on the borders of our great lakes to become much worse by residence in an equable climate. For example, a patient suffering from a moderate degree of hypertrophic rhinitis went from Chicago to Southern California in hopes of obtaining relief, but there he was unable to breathe through the nose at all, and he was compelled to return to Chicago.

With these conflicting facts before us, how can we determine what climate to recommend to our catarrhal patients? We have observed that as a rule they do best in a comparatively dry climate not more than one or two thousand feet above the level of the sea, but there are many exceptions to this. Occasional cases are greatly benefited by a sojourn in high altitudes, and I hope to hear from the physicians of this locality what particular phases of the disease improve in Colorado.

By ascertaining in individual patients the season of the year, and the kind of days when they feel most comfortable, we may often be able to judge of the most suitable climate for them. Yet it frequently happens with these cases, as with asthmatics, that the climate must be tried by each patient for himself in order to determine what atmospheric condition is best suited to his disease.

Before sending such cases from home we should try faithfully the methods of treatment which have been found most beneficial by expert laryngologists. If these do not succeed we should recommend a dry or moist climate, according to the kind of weather in which the patient feels best—at an altitude of not more than one or two thousand feet above the sea, or even less than this. High altitudes should be tried only incidentally, as they are not apt to prove beneficial.

My observation, which embraces several thousand patients, leads me to the following conclusions:

A dry atmosphere at a comparatively low altitude will generally be found beneficial in the following diseases:

In rhinitis intumescens, which is characterized by intermittent swelling of the tubernated tissues with obstruction of one or both nares, and the consequent discharges into the throat.

In simple chronic rhinitis, with or without excessive secretions; providing there is but little irritation of the mucous membrane.

In atropic rhinitis with excessive muco-purulent discharge, with but little tendency to drying.

In such cases of hyperæsthetic rhinitis as improve during the dryer portions of the year. However, most cases of hyperæsthetic rhinitis will be more benefitted by an equable climate even though the atmosphere be loaded with moisture.

A high and dry atmosphere is usually prejudicial in rhinitis intumescens and in atrophic and hypertrophic rhinitis, and indeed in all catarrhal affections occurring in patients of nervous temperament. These injurious effects may be ascribed partly to the dryness of the atmosphere, partly to the irritating dust often found in high altitudes, and partly to the effects of the rare atmosphere upon the nervous system which undoubtedly has much to do with the etiology of catarrh.

A high and dry atmosphere may be expected to prove beneficial in cases where there is excessive secretion with little or no nervous irritability; in some cases due to syphilis, and in exceptional cases of atrophic rhinitis with excessive secretion.

In inflammatory affections of the *larynx* we may expect benefit at a low altitude with a dry atmosphere; in simple chronic laryngitis, and in some cases of tubercular laryngitis. In the latter, however, I prefer an altitude of from 1,500 to 2,500 feet, and there is no objection to the atmosphere being impregnated with the odors of pine and fir which the laity consider of so much importance; but I doubt whether these are of any benefit.

In cases of laryngitis with deficient secretion, or excessive irritability of the mucous membrane, the moist atmosphere of equable climates is generally preferable.

A high and dry atmosphere is usually injurious to persons suffering from chronic laryngitis, but it is beneficial in exceptional cases. My observation, however, does not enable me to decide what cases will be improved by this condition. But it seems probable that benefit would be derived in certain cases of simple laryngitis in phlegmatic patients; in some cases due to syphilis in which the mucous membrane requires stimulation, and in exceptional cases of tubercular laryngitis, in which the beneficial effects of the atmosphere upon the constitutional disease more than counterbalance its deleterious influence upon the local affection. The latter are most likely to be found in patients in whom the mucous membrane of the larynx is not very sensitive. In laryngo-pulmonary tuberculosis patients usually do best at an altitude of from 1,500 to 2,500 feet. in a warm and dry atmosphere, but it is often difficult to

determine what is best for them because of the beneficial effects of high altitudes on tuberculosis of the lungs and their baneful effects on the same disease affecting the larynx.

The injurious effects of such an atmosphere on the larynx are often attributed to the dust which it contains, but the explanation is unsatisfactory, for in persons who are continually inhaling much more dust, in planing mills or machine shops, the injurious effects are oftener manifested on the lungs than the larynx.

It seems probable that the action of this atmosphere on the mucous membrane of the upper air passages is not very dissimilar to that of the wind and sun upon the skin unused to exposure.

Owing to its dryness it causes rapid desiccation and destruction of the superficial epithelial cells with consequent irritation of the subjacent tissues, which in addition to the increased flow of blood to the part, resulting from diminished air pressure, necessarily increase the inflammatory action.

70 State Street.

THE CLINIC.

A CASE OF EXOPHTHALMIC GOITRE.

A Clinical Lecture delivered at the Hospital of the University of Pennsylvania.

BY JAMES TYSON, M.D.,
PROFESSOR OF CLINICAL MEDICINE.

Our patient, a woman, aged 44, was born in Ireland, and is a servant by occupation. Her family history has no bearing on the present disease. Up to three years ago she had good health; at this time she became ill with rheumatism and was confined to her bed for a month. She recalls her knee as being badly swollen. At this time, too, she noticed for the first time a lump growing upon the front of her neck, first in the median line. With this she experienced a choking sensation, especially when she swallowed; but occasionally at night, when lying down, she noticed the same disagreeable symptom. At first the swelling increased slowly, but for the last year it has grown rapidly. As early almost as she noted the swelling she observed that her eyes began to protrude. Her weight at the outset was 160 pounds; it is now but 84, a loss of 76 pounds. The swelling is now on both sides of the neck and nearly symmetrical. The hand placed on it it detects not only a pulsation, but a thrill, more noticeable on the left side of the tumor. The eyes are also equally protruded, and show a large amount of the white. This produces the staring effect which you all notice; she can, however, still cover both eyeballs with her closed eyelids. These two most conspicuous symptoms, the goitre and exophthalmos, give the name to the disease of "exophthalmic goitre." But it is also called "Grave's disease," and "Basedow's disease," from two observers who early described it. Another symptom noticeable with the thrill in the patient is the frequent pulse, which is also essential. At this time it is 122.

As to the exophthalmos, in addition to the varying degree there is also this less constant feature, first pointed out by von Graefe, and known as the Graefe symptom, viz.: a want of coördination in the motion of the upper eyelid and that of the eye. In health, when the eye is raised or cast down, the upper lid follows it. This does not occur when the Graefe symptom is present. This symptom is said to be diagnostic, and even to occur early in the disease; but it is not constant, and is not present in the case before us. The acceleration of pulse is rightly called essential, because it is always present. It is seldom less than 100, but rarely exceeds 140. In certain cases, however, it is said to have reached 200. Equally constant is dilatation of the blood-vessels, although not always as conspicuous as in this case. There is no corresponding rise of temperature. The three essential symptoms may therefore be said to be goitre, exophthalmos and frequent pulse. In order of appearance, the goitre is generally first noticed; the exophthalmos is next, while the palpitation may not be noticed for some time. The disease generally develops slowly, and these three distinctive symptoms may appear nearly simultaneously. The goitre in itself is in no way peculiar. It is usually of moderate size, not reaching the dimensions of the uncomplicated goitre. The tumor is largely contributed to by the vascularity of the part; although there is also an overgrowth of the glandular tissue of the thyroid gland. Other symptoms also exist. Hypertrophy of the left ventricle is one of these, but it is also absent in our own case. The heart's boundaries do not extend abnormally, although its beat is strong and forcible. The normal rhythm is also preserved; but arythma occasionally occurs. A cardiac murmur is sometimes present; there is here evident mitral systolic murmur, heard less distinctly at the base. These murmurs are often hæmic, for these patients being often anæmic, furnish the conditions of the hæmic murmur. Another frequent symptom is the presence of what is termed "nervousness;" the patient is restless, quick, irritable. This may also show itself in the shape of tremor, either of a part or of the whole body; thus the legs or arms may be affected, or even more limited muscle areas. Sweating, sometimes unilateral, should be named as an occasional symptom.

Exophthalmic goitre is more common in women than in men, according to Trosseau, as 50 to 8. I do not remember having seen a case in a man. It is also more common in the young adult and middle-aged. This woman, who has been ailing for three years, was 41 before she

showed symptoms of this disease; she is the oldest patient with this disease that I have seen.

The relation of the symptoms to each other is difficult to determine. Indeed, there seems to be none, for they are rather the result of a common cause. What this cause is, is not known with certainty; but its nervous nature is generally conceded. Of the three great nervous masses, the brain, the spinal cord, and the sympathetic system, the latter seems the more likely centre of disturbance. Whether the change is one of paralysis or irritation is difficult to decide; each view serves to explain a number of points in the symptomatology of the disease. I am inclined to regard it as a vaso-motor paralysis. The dilatation of the blood-vessels of the thyroid gland and the exophthalmos are equally well accounted for from this standpoint. The eyes are protruded because the blood-vessels posterior to them are dilated and push them forward. The sweating which sometimes occurs is also thus easily explained. The increase in the frequency of the pulse would not be explained by paralysis, but by irritation of the sympathetic system. Such irritation would cause the heart to beat more rapidly; it would not, however, explain the exophthalmos.

As to prognosis, sooner or later most cases improve and some get well. Exophthalmic goitre is rarely fatal in itself; the opportunity for autopsies generally occurs when the patients die from other diseases. Occasionally the condition remains permanent, but in time the majority of cases get well, or at least improve vastly. I have a case under observation; a young woman who, ten years ago, had exophthalmic goitre, who is now well except that her eyes are slightly more prominent than is strictly natural; strangers would not notice it at all.

Whatever irritates or in any way produces a serious impression on the nervous system may cause exophthalmic goitre, such as shocks, trials, anxieties, sudden reverses of fortune; but we cannot ascribe any definite cause to the trouble. Here we are as much in the dark as elsewhere in the study of the disease. However, it it is to be remembered that rheumatism is to be included among the causes, and our patient, who has had much rheumatism, may owe her trouble to it.

The treatment is directed to the symptoms mainly. The remedies most used are the bromides and digitalis; digitalis to slow and steady the pulse; the bromides for two reasons: first, as nervous sedatives; and secondly, for their reputed action in producing anæmia of the nerve-centres. In some cases, where there is no cardiac lesion and the pulse is good and strong, aconite with the bromides is of service. Ergot, for its power of contracting the calibre of blood-vessels, is also a rational remedy. This woman has been on carbonate of iron, ergot and digitalis. There is a difference of opinion as to the propriety of administering iron. I believe the decision should be based on the condition of the patient and the presence or absence of anæmia. By German writers, galvanism of the sympathetic is claimed to be of service. The English physicians have not been so fortunate in its use. Theoretically it should be of service, and we will try it along with the other measures. A constant current of from five to eight cells is used; the negative pole is placed on the fifth cervical vertebra, the positive pole along the sternum. Up to the present our patient has improved under carbonate of iron, two grains at a dose, digitalis and ergot each one-half grain.

MEDICAL PROGRESS.

BACTERIOLOGICAL STUDIES IN SCARLATINAL ANGINA.—WURTZ and BURGES (*Arch. de Méd. Exp.*, May, 1890) have recently made some observations in this line that are of some practical importance. A few cases of scarlatina, in the Trousseau Hospital, were transferred to the pavilion for diphtheritics because of early development of false membrane in the throat. The bacteriological examination in all these cases revealed the streptococcus pyogenes, in a pure state, or associated with other microbes of suppuration. In none of the cases with early developing membrane did the authors find the bacillus of Klebs-Löffler. In two cases of angina with late developing membrane the specific bacillus was found to be present. One of these children that early presented the streptococcus pyogenes was undoubtedly secondarily infected in the pavilion for diphtheritics, to which it had been transferred.

The authors come to the conclusion, that the precocious angina of scarlatina is not, in the great majority of instances, of a diphtheritic nature, notwithstanding the gravity of the symptoms. It is important to differentiate these conditions and not send these patients among the diphtheritic, where they may contract a much more formidable disease.

CONDITION OF THE HEART AFTER DEATH.—The old statement that in death from respiratory failure the right ventricle was filled with blood and the left empty, while in death from heart failure the left ventricle is filled, has recently been questioned, and STRASSMANN (*Vierteljahrschrift für ger. Medicin*) has added a series of experiments to the literature of the subject. Dogs were killed with prussic acid, blows, stopping the trachea, strychnine and hæmorrhage. The heart was examined immediately after death, and in cases of primary heart failure (also when death was caused by a blow), the left side of the heart

contained more blood than the right. In death from acute asphyxia the reverse was found. It is important that in no case, in any form of death, was the heart found in systole on immediate examination. The right and left ventricle were in diastole, soft and filled with blood, even in cases of strychnia poisoning.

In the later examinations, twenty-four hours after death, the conditions were greatly changed. When *rigor mortis* sets in the left ventricle empties itself and strongly contracts, even in cases where death was caused by heart failure, and at first the ventricle was soft and overfilled. These phenomena are present in the right side of the heart to a less degree, owing to the weaker musculature.

In those cases where *rigor mortis* is present and the ventricle soft and overfilled, the author thinks there is degeneration of the heart muscle. This condition was noted in two of the animals used for experiment: One was suffering from some infectious disease and the other died from prolonged chloroform narcosis.

From the experiments of this writer we are justified in receding from the position of the older authorities that the condition of the heart as found *post-mortem* is an index of its condition at the time of death. It is doubtful if the older observations of death from respiratory failure or heart failure are of any value, as the condition of the ventricle seems to depend upon the time that has elapsed since death.

CANNABIS INDICA IN GASTRIC DISORDERS.—A very useful contribution to our knowledge on the treatment of the various varieties of indigestion is published in the *Deutsche Medicinische Wochenschrift* of August 14 and 21 of this year, by DR. G. SÉE, who, as stated in our Paris correspondent's letter of last week, has dealt with the same topic before the Academy of Medicine. After a full discussion of the forms of indigestion that are recognized, and the use of cannabis indica in their treatment, Dr. Sée arrives at the following conclusions: 1. The most convenient form in which to employ the drug is the extract, in doses of about ¾ gr. daily, divided into three portions. Above this dose the drug is apt to produce unpleasant effects. (The French extract is stronger than the English.) 2. The drug was chiefly tried on the non-organic affections of the stomach. These were divided into two groups. The first included cases in which the gastric juice was altered in composition, especially if there was an excess of hydrochloric acid. The second group consisted only of cases of gastro-intestinal neuroses, in which there was no change in the digestive juices. 3. All these affections—dyspepsias and neuroses—were characterized by five sets of symptoms, occurring in various proportions. (*a*) Pain, local or radiating, arising spontaneously or after food. The variations in appetite belong to this group. (*b*) Atony of the stomach, with or without dilatation, is almost always present. Vomiting is more frequent in the neurotic cases. (*c*) Flatulence and eructation occur in most cases; in the neuroses the gas consists chiefly of air which has been swallowed; gases formed by decomposition arise from lactic or acetic acid fermentation, and not from excess of hydrochloric acid. These gases are the cause of the painful symptom known as "heartburn." (*d*) The gastric digestion of flesh food and albuminoids is little affected when hydrochloric acid only is in excess, but it is deficient when too much lactic or acetic acid is present, and completely in abeyance when there is deficiency of acid. In the neurotic cases gastric digestion is normal. Constipation is the rule in most cases. (*e*) In this last group are placed the varied symptoms—giddiness, migraine, palpitation, agoraphobia, etc. 4. Cannabis indica gives relief from pain and increases the appetite in all cases, no matter on what causes the pain and loss of appetite may depend. If, however, too much hydrochloric acid be excreted, it is better to aid the action of the drug by large doses of bicarbonate of soda, given about four hours after food. Cannabis indica has no beneficial action on the atonic state of the stomach, but it relieves vomiting and cramp of the stomach. The drug has no direct influence in checking flatulence, but it aids the expulsion of the gas and diminishes heartburn. The digestion of food is improved, if the failure depends upon neuro-paralytic conditions, or is rendered painful by an excess of acid, but no improvement is produced if the disorder is caused by a want of acid. As regards the other symptoms—giddiness, sleeplessness, palpitation, and the like—some relief is generally experienced by the use of this drug, but no alteration for the better is noticed in the hypochondriacal, hysterical, or neurasthenic conditions. In short, cannabis indica may be said to be a true sedative to the stomach, without causing any of the inconveniences experienced after the administration of opium, chloral, or the bromides. It should be combined with the use of alkalies in large doses and with mild aperients.—*Lancet.*

PERIODICAL PARALYSIS OF THE FACIAL AND ABDUCENS.—Periodically recurring paralysis is an exceedingly rare affection, and one that is most difficult of explanation. It is not long since Moyer and Hinde reported a typical case of periodical oculo-motor paralysis, and now we have an account of a similar paralysis, in other motor nerves, from the pen of NIEDEN (*Centralblatt f. prakt. Augenhkde.*). The patient, a woman 36 years of age, of good health, free from syphilis, and who had borne seven healthy children, was taken in January, 1884, with a severe pain in the back of the head and spasm of the right side of

the face. Suddenly the left half of the face became paralyzed, which after a time disappeared. Fourteen days later it returned, but yielded after four weeks' treatment with electricity and iodides. In April, after severe headache, the external rectus became paralyzed, and eight days later difficulty in speaking and chewing developed. When protruded the tongue turned to the left. Sensibility of the tongue, and taste normal. The paralysis of the sixth nerve and tongue disappeared after six weeks. In June, 1887, again after confinement, paralysis of the right facial nerve took place, preceded for some weeks by severe headache. This attack disappeared in four weeks. In February, 1889, after severe headache, paralysis of the right adducens, and light left-sided facial paralysis. Recovery in eight weeks. In May, 1890, complete right facial paralysis. This last attack was, like the others, preceded by pain that ceased as soon as the paralysis developed.

The author remarks that in this rare case it is probable that changes are present in the nuclei of the facial and abducens, though the nature of such change is purely speculative.

DIURETIC ACTION OF MILK SUGAR.—Milk and buttermilk have long been recognized as excellent remedies in treatment of diseases of the kidney. It is not long since Sée announced the diuretic properties of milk sugar and recommended its use in dropsy dependent upon heart lesion. His observations were soon confirmed by Dujardin-Beaumetz. We have recently had additional confirmation from the pen of DR. ZAWODSKI (*Deutsche Med. Ztg.*) who employed this treatment in a severe case of dropsy with excellent results. Unlike Sée and Beaumetz, he made no change in the diet of the patient and allowed him to take fluids. The dose also was lessened to 12 to 18 grams a day given with a considerable quantity of milk, that contained at least 50 grams of milk sugar.

The author thinks that this substance is to occupy a prominent place among the diuretics, as it is easily administered, agreeable in taste and of low cost.

REMOVAL OF BREAST DURING HYPNOTIC SLEEP.—DR. SCHMELTZ, of Nice, has recently (*Gazette Médicale de Strasbourgh*, July 1) recorded a case in which he removed a sarcomatous breast during anæsthesia caused by hypnotism. The patient was a girl, aged 20, who was easily thrown into the hypnotic state. The operation was performed in the presence of Drs. Lauza and Barriera, and the entire organ, together with the aponeurosis of the pectoralis major was removed by the oval incision. Five drainage tubes were inserted and the wound was closed with thirty-two-metallic sutures. The operation lasted an hour. The patient remained absolutely insensible, in a condition of the deepest anæsthesia, such as is only seen after large doses of chloroform. Dr. Schmeltz says: "I operated very slowly and quite at my ease; the patient even tried to encourage me by her words; she seemed very gay, and laughed loudly from time to time as if to show that she felt no pain. In order to make the operation easier for me, she turned herself about so as to place herself in the most favorable position, keeping her right arm stretched out so that no assistant was required to keep it steady." She was kept under observation the rest of the day, and having been told not to feel pain and to have a good night, she obeyed these instructions in the most docile manner. The wound was completely healed on the fifteenth day. The only symptom worth mentioning, which Dr. Schmeltz observed in the patient during the operation, was great pallor of the countenance, without any dilatation of the pupil or weakening of the pulse. The tumor weighed 2 kilograms.—*Brit. Med. Journal.*

RELATIVE VALUE OF DIFFERENT METHODS OF TREATING UTERINE MYOMA.—M. R. PICHERIN (*Gaz. des Hôpitaux*) has recently made a careful study of the different methods of treating uterine myoma. He classes castration as among the palliative remedies, while he considers it quite as dangerous as the radical hysterectomy. The principal objection to the removal of the ovaries in these cases is that in all cases it does not bring on the menopause, it does not constantly reduce the size of the tumor, that it is a dangerous and often difficult operation, with a mortality of nearly 14 per cent. In conclusion he says, that the great operators are not agreed upon the indications for oöphorectomy, and he therefore comes to the conclusion that hysterectomy, as it is quite as safe, should be preferred in the majority of instances. The writer speaks warmly of the electrical and medicinal treatment of fibroids, and says that the radical operation should only be thought of after these have been faithfully tried.

GASTRO-HYSTROPEXY. — M. POZZI performs hysterorrhaphy after certain modifications introduced by himself. The uterus having been exposed and brought forward till it touches the abdominal wound, a continuous silk suture is passed through the posterior sheath of the rectus close to its cut edge on the left side, the peritoneum, and the uterus in the middle line, and hence to the peritoneum and sheath of the rectus on the right side of the wound. The uterus is transfixed three times in this manner, the needle passing a short distance under the serous coat, further in the uppermost than the lower points of the transfixion. The suture is finally tied and cut short. The more superficial layers of the abdominal wound are sutured separately. M.

Pozzi described two cases of retroflexed uterus bound down by adhesion where this operation was performed, in the *Annales de Gynécologie* for June, 1890. The first case was a complete success. Alexander's operation had already been attempted without giving relief. In the second there was suppuration of the lower part of the wound, which the operator attributed to the fact that the silk suture had not been sufficiently boiled. The uterus in each case remained firmly fixed to the parietes. M. Pozzi prefers the continuous sunken suture to the interrupted suture passed outside the integuments, and removed on or about the fifteenth day after operation, as practised by Leopold, who considers that a relatively loose adhesion is sufficient.

THE BACILLUS OF PURULENT URINE.—Some experiments have been made in the laboratory of Prof. Strauss, in Paris, by DR. KROGIUS, on the puriform urine of ten patients suffering from chronic stricture, with catarrh of the bladder and pyelo-nephritis. In one of these cases a bacillus was found of rather polymorphous appearance, resembling a small mobile pencil with rounded ends. The bacillus was from 1.8 μ to 3.6 μ in length, with a breadth equal to one-third of its length. When cultivated the length became considerable, but it developed no spores. It was easily dyed by aniline, but with equal facility decolorised by Gram's method, and it liquefied gelatine. At a high temperature it developed most pecular colonies. They were distinguished by a strong characteristic odor resembling that of purulent urine. The development of ammonia was very marked. The bacillus very quickly decomposes urea into carbonate of ammonia and water. When newly cultivated and injected in doses of ¼ cubic centimetre into the subcutaneous connective tissue, veins, or peritoneum of rabbits, it often caused death in two hours, and never took more than two days to act fatally. Older bacilli are still more poisonous. The puncture shows first œdema and redness, and then the epidermis becomes gangrenous, with an ammoniacal odor. The animals themselves are, in a few hours after the injection, in a state of high fever, prostrated, and suffering from profuse diarrhœa, and ultimately coma comes on, during which they sometimes die in convulsions. The bacillus is called by the author "liquefaciens septicus."—*Lancet.*

A NEW OPERATION FOR CANCER OF THE RECTUM.—DR. AXEL IVERSON, of Copenhagen, presented a communication on this subject to the Tenth International Medical Congress, as follows: One can never know with certainty whether the disease is limited to the rectum or whether the neighboring glands are also involved, and it is difficult to settle the question as to whether an operation is indicated. Colotomy will relieve for a certain time, and often, indeed, for a long time, the symptoms dependent upon the co-prostasis, but it does not help the pain nor reduce the fœtid secretion. The want of a more radical operation for the relief of this terrible disease is therefore still urgently felt. It is known that cancer of the rectum often remains stationary for a long period, and the author had made autopsies on 47 long-standing cases, in 21 of which there had been no metastasis. This fact gives hope of success from a radical operation. In judging of the latter we need not consider the direct mortality so much as the tendency to a return of the disease. The author then presented statistics of 247 cases of operation for rectal cancer performed in the Scandinavian countries, which showed only a very small number of patients who had survived the operation for several years without having had a local relapse. The results of extirpation were slightly better, as regards prolongation of life, than those of colotomy, but they were little or no better in respect to relief from pain. The author then spoke of the different methods at present in favor, showing wherein they were defective. He thought too great an effort had been made to preserve continence of fæces, and the operations therefore had not been radical enough. The surgeon should not hope for too much—the essential thing is to make the operation a radical one. A partial operation should be undertaken only when the disease is strictly limited to the anus. In every other case, if one is to operate at all, it is necessary to perform total extirpation of the rectum, making a permanent artificial anus in the sacral region. Unless this is done, it will be impossible to remove all the glands which are liable to be infected. The extirpation of the tissues surrounding the intestine is also necessary, as here are often located the "seedling" cancers. The operation is performed as follows: After a preliminary Kraske operation, with or without resection of the sacrum, oval incisions are made surrounding the anus, and then the rectum is dissected out from below upward, care having been taken to tie a ligature around the anus in order to prevent escape of the contents of the gut. All the pre-sacral connective and adipose tissue is then removed. Next the peritoneum is opened and the intestine drawn down. Now the intestine and the parietal layer of the peritoneum are stitched.—*Medical Record.*

BACILLUS OF WARTS.—A bacillus has been found in the "prickle layer" of common warts by DR. KUHNEMANN (*Monats. für Prakt. Derm.*) It is described as very slender and delicate, occurring both in and between the cells. This fact would account for many curious phenomena which have been noted in regard to these tumors.

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ABSORPTION BY THE SKIN.

It has been repeatedly held that the sound skin will absorb substances in watery solution, and again it has been denied. The teaching of our standard text-books for the past dozen years has been that of PARISOT, who said that the skin was unable to absorb any substances from watery solutions, and that this was due to the fat nominally present in the epidermis and pores of the skin. According to RÖHRIG all substances which act upon and corrode the skin, are capable of absorption. This fact was later confirmed by RITTER and PFEIFFER, who found that salicylic acid was rapidly absorbed when brought in contact with the skin, and other substances brought in contact with a part previously treated with salicylic acid, rapidly entered the circulation. The experiments of these writers would seem to be conclusive as to the impossibility of substances passing through the sound skin. In only one instance out of five did they succeed in detecting iodide of potassium in the urine when a salve containing 10 per centum of that drug had been rubbed into the extensor surfaces of the arm and leg. In the instance where it was absorbed, it had been in contact with the part for four days, and the rancid fat had probably disorganized and softened the epidermis.

Recently, other writers have busied themselves with this vexed question, notably KOPPF, who plunged a portion of the body in a solution of sublimate with potassium iodide, and recovered these substances from the urine. M. STAS experimented in a similar way with arseniate of potassium, with negative results.

A late number of the *Gazette Médicale de Liege* contains an abstract of the experiments of DR. KILLER, who sought to solve the problem by estimating the amount of chlorine excreted in a given time upon a fixed diet. The first experiments were with full warm baths containing 6 per cent. of sodium chloride. The results were as follows:

Before the baths	(3 days)	1.605.
During "	" (7 ")	2.108.
After "	" (2 ")	1.431.

A second series of ordinary baths (not salt) gave:

Before the baths	(2 days)	1.750.
During "	" (3 ")	1.177.
After "	" (2 ")	2.291.

A third series with salt showed practically no change in the amount of chlorine excreted by the kidneys before, during, or after the baths. As the author says, even the favorable second series does not prove cutaneous absorption, as the baths may have modified elimination of sodium chloride by the tissues. To avoid this source of error he chose the iodide of sodium, a salt not normally present in the body. Of eighteen trials with this substance, eight were negative, and in two of the positive cases one was where the arm plunged into the solution contained a small blister, and in the other, a full bath; it is possible that absorption may have taken place through the natural orifices.

In conclusion we can say that recent experiments only go to confirm the views of older writers, that absorption of substances in watery solution is practically impossible with a sound epidermis. Substances that corrode or soften the epidermis will aid absorption, and the prolonged application of water will macerate the epidermis and in that way admit substances to the circulation.

THE AMERICAN MEDICAL ASSOCIATION IN RELATION TO ORIGINAL SCIENTIFIC RESEARCH.

In the editorial columns of THE JOURNAL of June 14 we referred to the necessity of the creation of a special Section to consider papers presenting the results of original investigation, or of the adoption of some means to encourage such work. The special advantages that THE JOURNAL possesses for the dissemination of the results

of original work are so manifest, when compared with the limited circulation of the reports of hospitals, laboratories, or special societies, that any discussion of that feature of the question is supererogatory. And in an editorial article in THE JOURNAL of August 2, we presented the desirability of more intimate relations between the work of State Medical Societies and that of the American Medical Association, and we may consider this subject as a means to attain such an end. In a leading article in the *New York Medical Journal* of August 16, on "The Relation of American Medical Societies to Scientific Research," the point is made that aside from an occasional scholarship at some university, or the various prizes that are offered for the "best essay, etc." any of our physicians that may desire to undertake some special investigation are compelled to purchase their own chemical or physiological apparatus as well as the material necessary to pursue the investigation. It is urged that the desideratum is means with which the requisite appurtenances may be purchased for competent investigators that can ill afford both time and money; and the suggestion is made that the numerous American medical societies imitate the British Medical Association and allot certain sums of money to qualified physicians to purchase what may be needed to make some special investigations.

It may be information to some of our readers that the British Medical Association, according to their Journal of July 26, in 1889 allotted twenty-five hundred dollars, in sums of from fifty to two hundred and fifty dollars, to members in various portions of Great Britain for expenses necessary in making original research.

At present the finances of the American Medical Association do not justify such a diversion of its funds; though the highest aim of our organization must necessarily tend to the realization of measures to encourage and foster original research. But a number of the State Medical Societies have an accumulated fund that could be used, under the direction of a judiciously selected committee, for such purposes. If, instead of the large annual volumes of Transactions published at considerable expense to the Society, the latter would confine its publication to the Official Transactions, referring such papers as a publication committee recommends to THE JOURNAL, the working expenses of the State Societies would be diminished, consequently more money could be utilized for the purpose we are considering, and a more intimate relation would be established between the State Associations and the American Medical Association.

Such a plan would involve no diminution of the autonomy of a State Society; it would permit many qualified physicians undertaking experimental research who are now deterred by the attendant expense of these investigations; it would give the scientific papers of the State Associations an audience that volumes of Transactions do not reach; and well conceived original work would redound not only to the benefit of humanity but to the credit of the investigator, the State Association, and the reputation of American medical science.

A SOUTH AMERICAN QUARANTINE.

The establishment at the mouth of the Rio de la Plata, in Uruguay, used in part as a quarantine station, is a strange combination of hotel, prison, military camp and seaside resort. It is situated on the Flores island, the sovereignty of which is vested in the Republic above named. In the summer months, everything that comes from the neighborhood of Rio de Janeiro is under the ban, on account of the dread of yellow fever, and every person from that port is detained until ten days shall have elapsed from the time of sailing. A single boat-load may comprise from 300 to 600 visitors. Although the accommodations at this Grand Quarantine Hotel are poor the people who journey that way must stop there until the specified time has expired. There are all classes of passengers, as first class, immigrants, traders, officials and the like. When the crowd arrives at the hotel, it is sorted out and packed away, entirely at the mercy of the management, since it is the only place on the island where shelter can be had. A permanent garrison is maintained, and it includes a commandant, surgeon, State's secretary, postmaster, lighthouse keeper and telegraphists. Every morning, during pleasant weather, a tugboat comes over to the hotel from Montevideo, with the mails and provisions. When a "norther" prevails, the tugboat does not come, and inasmuch as the storm may continue as long as five days, the stock of supply may fall to near-

ly the starvation point. As one visitor writes: "Think of stopping at the largest hotel in the world and not being able to get more than one or two meals a day, with bananas for one of the meals. This was during a storm that lasted five days, and there were fully a thousand guests on the island at that time." Protests addressed to the officials are unavailing—they are a little autocracy all by themselves—and patience for those few days is the best and only remedy for the disagreeable situation.

EDITORIAL NOTES.

RECOGNITIONS OF MERIT.—Rush Medical College is fortunate in bringing to its Chair of Physiology the services already so valuable and so full of promise in the future as are those of Dr. Harold N. Moyer. Dr. J. A. Lydston will be a valuable accession to the Faculty of the Chicago College of Physicians and Surgeons as Professor of Chemistry.

SPERMINE.—Dr. Pohl, of St. Petersburgh, writes to *Le Mercredi Medical* that he believes that the crystals found in the seminal fluid, as described by Schreider, are the phosphate of an organic base called spermine, which is identical with ethyleneimine, according to Laderberg, and Obel. Pohl has extracted spermine from the testicles of young rabbits, and has used it experimentally. He has observed that it decreases the action of the heart, while it increases the general energy and stimulates the nervous and genital systems. He thinks it probable that castoreum and musk owe their nervine properties to the spermine which they contain. The crystals of the phosphate of spermine have been named the Charcot-Neumann crystals. Ethyleneimine is an artificial product which is isomeric with spermine. Possibly, also, some of Brown-Séquard's results may find their explanation in the hypodermic injection of this leucomaine, spermine, or some other similar substance, which can, in the future, be isolated and definitely described.

THE HYGIENIC ARREST OF LEPROSY.—Dr. Sandreczky, of Jerusalem, has described his treatment of a case of leprosy, which has been under observation four years and which he thinks may fairly be said to be "cured." After two years of treatment the progress of the malady appeared to be stayed; there has been no relapse and all signs of the disease have disappeared excepting the atrophy of the hands which, of course, is permanent. The case, as given in *Monatshefte für praktische Dermatologie*, was that of a child whose family history was free from leprosy. The treatment was directed principally upon lines of general hygienic management, such as open air exercise, massage, bathing, iron and quinine; the baths were varied with green soap, sulphur, iron or salt, the water being very hot, and free perspiration being promoted by means of proper coverings over the body after each bath. The tubercles were treated by chrysarobin, green soap or iodine, without any manifest benefit.

A POLICLINIQUE AT PARIS.—An institution has been opened at Paris, which bears a close resemblance to the post-graduate schools of the United States. It is located at No. 28 rue Mazarin, as a dispensary and teaching institution, under the title of the Policlinique de Paris, and is designed to become a centre for practical medical teaching.

THE proceedings of the recent Berlin Congress, which include more than 200 addresses and discussions, will be published in full in a large work, which will appear in separate parts. It is expected that the first part will be ready in the course of the autumn.

A BILL making vaccination optional in Holland has been introduced into the legislative chambers by the Dutch Government. The Minister of the Interior is said to be a member of the Anti-vaccination League, but it is not thought at all likely that the proposal will be adopted by the States-General.

CLINICAL TEACHING AT MOSCOW.—Extensive additions have recently been made to the buildings used for the purposes of clinical teaching at Moscow, and the medical faculty of that University is now of the best equipped in Russia. The Imperial Treasury provided funds for the erection of a University Clinic, and private munificence furnished the means of building clinics for mental diseases and gynecology, and for the instruction of midwives. All these will be officially opened at the beginning of the scholastic year, and a new clinical hospital will also be opened in January, 1891. The total superficial area of the new clinics is 20,000 square feet. In addition

to these new buildings, a children's hospital is in course of erection close to the University Clinic, and will be opened this autumn.

CHOLERA.—Cholera has broken out at Massowah, and the deaths there number fifty daily. The outbreak is stated to be among native tribes under Italian protection. The troops and European residents are free from the disease. A sanitary commission is on its way to Massowah with medicine and disinfectants. Cholera appeared at Aleppo on September 12. In the beginning of September cholera decreased in Spain, but recently there has been an increase in the cities of Toledo and Valencia, and the epidemic has reappeared in villages of the provinces of Albacete, Alicante, Castellon, Tarragona and Toledo, where it had subsided. The city of Valencia still has a high rate of mortality.

MICHIGAN BOARD OF CORRECTIONS AND CHARITIES.—At a recent meeting the Board passed the following resolution:

Resolved, That this Board advise the Boards of Control of the Asylums, Prisons, Reformatories, the State Public School, and Industrial School for Girls, the Institution for the Deaf and the Blind, to appoint a consulting medical staff consisting of a surgeon, ophthalmologist, aurist, neurologist and gynecologist, in connection with each institution, excepting those to which males only are admitted, where a gynecologist will not be needed. That these officers be known as consulting surgeons, aurists, etc., in the records of the institutions; that they be paid only for visits to the institutions, and that those visits be subject to the call of the superintendents, wardens, or other chief officers, or the Board having the institution in charge.

THE late Sir Munguldass Nuthoobhoy, C.S.I., of Bombay, by his will directs his executors to build, on land adjoining the sanatorium which he founded, a bungalow, to be used as a dispensary, for which purpose he bequeaths 10,000 rupees, and for its maintenance 30,000 rupees. To provide a Hindoo licentiate as a medical officer he gives 30,000 rupees, and for the maintenance of the sanatorium 10,000 rupees.

A HEAVY SUIT FOR DAMAGES.—A libel suit for $200,000 has been entered by William Radam against the *Druggists' Circular* of New York. Radam is the manufacturer of a much advertised microbe-killer, and his alleged damages are for the largest amount, so far as heard from, that has ever been asked in a suit of this nature. The allegations of the complaint show that the business of the said Radam has been damaged by an article published in the *Circular* in September, 1889, which gave the result of an analysis of the "killer," said to have been made by Dr. R. C. Eccles, of Brooklyn, who is one of the recently elected members of the Committee of Revision of the Pharmacopœia. Dr. Eccles stated in that article, that an identical preparation could be made by the following formula:

Oil of vitriol, impure, 4 drachms,
Muriatic acid, impure, 1 "
Red wine, about 1 ounce,
Well or spring water, 1 gallon.

This mixture can be made at a cost of less than five cents per gallon, while a gallon of the original fluid was usually sold at three dollars. It was further alleged that, while muriatic and sulphuric acids, the principal ingredients of the nostrum, could be properly prescribed, by professional advice, as medicines, yet when taken without due caution and counsel tended to become a hurtful poison; and that the theories of the said Radam, as to the cause and treatment of diseases, were asserted to be entirely erroneous. Colonel Robert G. Ingersoll, the renowned lawyer and lecturer, has undertaken the cause of the plaintiff. The proprietors of the *Circular* have expressed the desire that any physicians, who have observed unfavorable results from the use of the "killer," or other facts, interesting under the circumstances, will communicate with them. They claim that their publication of Dr. Eccles' analysis was without malice, and for the furtherance of the health and welfare of the general public, as against a nostrum dangerous alike in design and practical results.

ON August 2 the King of Italy signed decrees relative to the organization of "municipal laboratories of hygienic vigilance" throughout Italy for the examination of foods, beverages, etc. These laboratories must comprise at least two departments — namely: a "medico-micrographic" and a chemical one. They are to be under the direct control of the Minister of the Interior.

THE next quarterly meeting of the newly-formed Association of Massachusetts Boards of Health will be held in Worcester October 15. The subject for discussion will be sewage and its treatment. Dr. L. P. Kinnicut will read a paper on that subject, which will be followed by discussion. Upon invitation of City Engineer Allen the members of the Association will pay a visit of inspection to the new sewage purification works at Quinsigamond. It is expected that several sewage experts from Boston and other cities will join the inspecting party.

TOPICS OF THE WEEK.

THE "POLYCLINICO" AT ROME.

British medicine has more than its share of interest in this great work, which, when completed, will be an event of European importance. Not only will the grand façade of its surgical department present as its chief ornament the likeness in bas-relief of the English surgeon who discovered the antiseptic treatment, but the whole building, or rather groups of buildings, will bear the impress in almost every detail of British example and British influence. As already shown, the "Policlinico" is due to the inspiration of the leading physician and consultant of Italy, the statesman, scholar, and man of letters, Dr. Guido Baccelli. Thanks to his prudence, energy, and weight in official circles it is steadily advancing to completion, when the monetary crisis of Rome is causing the suspension of other architectual undertakings only less important. The site on which it stands, the south-east of the city, between the Porta S. Lorenzo and the Porta Pia, skirts on its urban side the Prætorian Camp, whence it stretches out toward the Sabine hills over a space of 160,000 square metres, circumscribed by ample approaches thirty metres wide. The architect bears an honorned name in his profession, Giulio Podesti, and has more than falfilled the expectations he inspired. Under him, again, works Signor Cerebelli as builder, with a "technical office" at his command; while the supreme direction is entrusted to a "commissione governativa," composed of the distinguished surgeon Durante and the equally distinguished physician Bastianelli, with Dr. Baccelli at their head. As one enters by the main approach to the "Policlinico" he is confronted by the "palazzo dell' amministrazione," from which on the ground floor and first floor branch off four great galleries, communicating with all the buildings of which the institution is composed. These consist of three compartments. To the right of the "palazzo dell' amministrazione" is the "comparto medico;" to the left, the "comparto chirurgico;" and at the south-east corner the compartment for infectious and contagious maladies, the laundry, and the "anatomico-pathological institute," with the "camera morturia" attached. At the back of the "palazzo dell' amministrazione" are the bath-rooms, the kitchen and the chapel. Every compartment is composed of several cliniques, which lie along the principal frontage. To the right, the medical, divided into propædentic, neuro-pathological, medical properly so-called, syphilitic, and pædiatric, to which is annexed a hospital for patients. This hospital, divided into twenty-two pavilions, accommodates easily 295 patients. The "comparo chirurgico" to the left is distributed into the following cliniques: the propædentic, the aural (otoiatric), the surgical proper, and the ophthalmic; while the "ostetrica-ginecologica" occupies the other corner corresponding to that dedicated to infectious and contagious diseases. This compartment also has a hospital attached accommodating 210 beds for teaching purposes. These cliniques accommodate 141 of both sexes; the "comparto chirurgico," as a whole, having 351 beds, and the obstetric institution 60; so that the entire policlinique provides for 878 patients. The space unoccupied by the buildings is divided by footpaths intersecting parterres, gardens, and fountains. Special operations of transport—as of patients, linen, cadavera—are effected through the immense galleries which place the several buildings in communication. Finally, the "Policlinico" will be provided with every appliance known to the best-appointed hospitals and schools of Great Britain and America, for ventilation, heating, and in the matter of lifts and conveyances for the patients. Dr. Baccelli, with an economic skill not always displayed in such vast undertakings, has succeeded in keeping the outlay, at least so far, within the estimates; which serves to explain the fact that the "Policlinico," which he fondly designates "il mio pomo d'Adamo" (the apple of his eye), as within measurable distance of being *un fait accompli* when other architectural enterprises in Rome are in suspension, if not deferred to the Greek Calends for want of funds.—*The Lancet.*

MODERN EMPIRICISM.

There seems to be a growing danger, which should be recognized and guarded against by students and practitioners of medicine, that physico-chemical research, with the expert inductive reasoning requisite for the application of such research to therapeutics, may result, in consequence of the technical nature of such reasoning, in practice without reasoning; that the rationalism of the few may tend to a form of empiricism in the many.

Few practitioners have opportunities of verifying otherwise than empirically the effects of a new remedy which they "try" on the authority of the physiologist or chemist; hence it follows that in the employment of the newer remedies, there is not now the same familiarity of the workman with his tools which existed fifty years ago in the days of apprenticeship, when an intimate knowledge of the remedies usually employed did not require special training and skill in the higher departments of physiology and chemistry, and when the student was able to master in his course of study the nature and properties of the drugs which were to serve him as the tools of his craft.

This seems to be an inevitable effect of progress in every art, the practice of which is based on advancing science; but it has come to the practice of medicine later than to others.

The popular and commercial names which have to be used for some of the newer drugs, instead of the cumbrous scientific combinations of syllables which indicate their constitution—such as antipyrin, antifebrin, urethane, hypnone, somnal, salol, thallin, etc.—must not be allowed to veil from the practitioner the real nature and constitution of such bodies; and, although it is impossible for the majority to do otherwise than use these remedies somewhat blindly on authority, the attempt must be made to understand the physiological and chemical principles on which the molecular constituents of such remedies are built up, and their efforts combined or neutralized in the many forms of therapeutical agents now produced synthetically in the laboratory of the physiological chemist.—Cor., *Brit. Medical Journal.*

PROHIBITION OF HYPNOTIC PERFORMANCES IN RUSSIA.

The Russian Medical Department has just issued the following circular (*Vestnik Obshtchestvennoi Highieny, Sudebnoi i Praktitcheskoi Meditziny*, August, 1890, p. 12):— "In consideration (1) that public exhibitions of hypnotism cause considerable injury to the health of subjects experimented upon as well as of spectators witnessing the experiments, the performances being apt to give rise to the development in hypnotised persons of various hysterical, nervous, and even mental affections, which may sometimes amount to a genuine epidemic of hypnotic mania; (2) that such public hypnotic entertainments offer to evil-minded subjects a good opportunity for studying methods of hypnotizing, and for subsequently practising them for various immoral or criminal purposes; (3) that generally such hypnotic performances, being not accompanied by any rational explanation, can breed in the public only erroneous notions, and even implant superstitions, while post-hypnotic suggestions can constitute a source of disturbance of order and the peace of the community by hypnotized persons, and even of committing criminal deeds by the same, the Medical Council has resolved: (1) That henceforward any public *séances* of hypnotism and magnetism are strictly prohibited; and (2) that the application of hypnotism for medical purposes can be permitted solely to medical practitioners, under the condition that the operation is to be practised invariably in the presence of other medical men." It is scarcely necessary to add that the leading Russian medical journals welcome the circular, the necessity of the measure having been unanimously advocated by them year by year.

ANTHROPOLOGY IN GERMANY.

The Congress just held at Münster affords ample proof of the progress Germany is making in anthropological research. Two hundred members were present, and, as usual, Professor Virchow was the most conspicuous and the most honored of the number. The President (Professor Waldeyer) in opening the proceedings, reviewed the history of the German Anthropological Society since its origin at Innsbruck in 1869, and among its achievements he signalised the splendid prehistoric map and the catalogue of prehistoric treasure-trove now approaching completion. At Virchow's instance, comprehensive researches have been made on the racial characteristics of Germany, and from the color of the hair, the skin, and the eyes, it has been ascertained that a blonde and a brown Germanic people dwell side by side in a sort of interlinear fashion. A very interesting memoir on the anthropological features of Westphalia as they emerge from prehistoric investigation, was followed by Virchow's short addresses on the occurrence of bronze ornaments in the Caucasus, on the application of antimony as a cosmetic, on von Schliemann's excavations, and on the cradle of the peoples in Interior Asia. An elaborate paper by Waldeyer came next, on the perennially interesting theme of the antiquity of mankind, including the points of resemblance between it and the higher grades of animals, as well as the importance of climatic influence, coupled with that of civilization, on the human skull-formation. The last day's sitting was a very animated one, mainly on account of the discussion evoked by a paper giving anthropometrical results based on the measurement of 2,100 English students. The growth of the bodily powers, it seems, proceeds steadily up to the twenty-fourth year, after which it begins, at first almost imperceptibly, to decline. This limit, however, can by no means be assigned to the intellectual powers, which go on increasing till a much later life-period. Another paper of peculiar interest to army surgeons was read by General-Secretary Ranke, on the corporeal measurements of the Bavarian recruits and the physical deductions to be drawn from these. The final contribution, that of Dr. Finke, on the "History of Westphalia, from the Earliest Times up to the Introduction of Christianity," was in some respects the most elaborate and striking of all, though the interest appeared at first to be of a purely local character. It was the work of a most accomplished anthropologist, and showed among its rich antiquarian, sociological, and artistic details what a field of important and stimulating knowledge lies in the immediate neighborhood of every true man of science. The customary banquets and excursions varied the work of the Congress most agreeably, and Virchow, in a genial toast at one of the former, proclaimed that in the interests of science the Münster Academy should be promoted into a fully equipped University. One most significant and gratifying feature of the gathering was the large number of medical men who took part in the proceedings.—*Lancet.*

THE EFFECT OF ENVIRONMENT.

The Rev. W. H. Dallenger, F.R.S., in his address delivered before the Bristol Naturalists' Society, pointed out that in the case of larger animals it was well known that changes in the environment produced change in the organism, but on account of the slowness of succession of the different generations, it was impossible for any one observer to follow up these changes to any extent. In the case of microörganisms, however, the succession of the generations takes place with such rapidity, that it becomes possible to produce well-marked change in the organism by the gradual increments of variation in the environment. In the case of one microörganism, he had been able in some eight years so to change it that it could live and multiply at a temperature of 157° F., although its optimum temperature at the beginning of the experiment was 65° F., and the upper limit at which it could live 100° F.

THE SANITARY CONDITION OF LIVERPOOL.

The position of Liverpool as one of the most frequented ports in the United Kingdom renders it peculiarly liable to the introduction of infectious diseases from abroad, and it suffered severely during the cholera visitations of 1832, 1849, and 1866. It places the system of sanitary inspection of the port in a favorable light, that since the outbreak in 1866 only two cases suspected to be cholera have occurred; and the experience of the last twenty-four years gives good ground to believe that cholera in the South of Europe will not spread to that city.

PRACTICAL NOTES.

POMADE FOR PRURIGO.

℞—Boric acid.
White wax ää 10 parts.
Parafine, 20 parts.
Olive oil, 60 parts.

—*Kaposi.*

POMADE FOR FISSURE OF THE ANUS.

Boric acid, 3 parts.
Chlorohydrate cocaine, 1 part.
Lanoline, 30 parts.

To be used after thorough cauterization of the parts with silver nitrate.—*L'Union Médicale.*

TREATMENT OF GONORRHŒAL ARTHRITIS.

℞—Camphor 100 grains.
Extract of opium 75 grains.
Alcohol 1 drachm.
Extract of belladonna 75 grains.

This is to be made into a cataplasm and applied over the part from ten to twelve hours, the joint being made immobile by proper dressings.

IRON, GLYCERIN AND CHLORATE OF POTASSIUM MIXTURE.

Tincture of chloride of iron 30 mins.
Chlorate of potassium 1 dr.
Glycerin ½ oz.
Water, sufficient to make 4 ozs.

Dose for adults, a teaspoonful every two hours; children, 20 drops to half a teaspoonful, according to their age.

A NEW METHOD OF PRODUCING LOCAL ANÆSTHESIA.

Dr. Voituriez recommends in the *Moniteur Thérapeutique* a method of producing local anæsthesia which certainly possesses the merit of simplicity. It is based upon the "well-known anæsthetic properties of carbonic oxide," and consists in pouring on the place to be anæsthetized the contents of two or three bottles of seltzer water, preferably by means of the syphon, which releases the water in a strong stream. The anæsthesia lasts five minutes and then gradually disappears. It is difficult to see how the "well-known anæsthetic properties" of the oxide are exerted by external application. The effect, if any, is probably mechanical.—*Druggist's Circular.*

A SIMPLIFIED TEST FOR SUGAR.

Prof. Nothnagel has communicated to a meeting of the Medical Association at Vienna a paper received from Dr. Becker, of Cairo, on a simplified test for sugar, which depends upon the fact that the paper used for the manufacture of visiting cards contains a larger quantity of potash to make it heavier and fuller. When this paper is brushed over with a concentrated solution of sulphate of copper and then dried, the salt is crystalized on the surface. If the urine containing sugar is then added by means of a bit of wood and allowed to dry by the action of the air, or by holding it over an Argand burner (without browning the sulphate of copper), the latter is liquefied by the water contained in the small crystals, and the alkaline paper immediately produces the sugar-browning reaction. The more sugar the urine contains, the darker the color produced. The author considers the test highly sensitive.—*Lancet.*

REMEDIES FOR NASAL CATARRH.

Prof. Leffert's solution for nasal catarrh is as follows:

℞—Acidi carbolici, ℈j.
Sodii boratis, ℥j.
Sodii bicarbonitis, ℥j.
Glycerini, ℥j.
Aquæ rosæ, ℥j.
Aquæ, ad. Oj. M
Sig.—Use as a spray.

Of catarrh snuffs the following are praised:

For scrofulous rhinitis:

Sulphophenate of zinc, 20 centigrams.
Tannate of zinc, 2 grams.
Pulverized tobacco, 10 grams.
Salicylate of bismuth, 4 grams.
Iodol, 3 grams. M

For chronic catarrhal rhinitis:

Pulverized alum, 2 grams.
Borax, 2 grams.
Menthol, 20 centigrams.
Tannate of zinc, 3 grams.
Tannate of bismuth, 3 grams.
Lycopodium, 8 grams. M

—*Pharmaceutical Era.*

HOW TO DETECT THE MORPHINE HABIT.

An efficient means of detecting the morphine habit is by adding a few drops of perchloride of iron to the patient's urine. A characteristic blue tinge results if he is a morphine user.—*N. Y. Med. Times.*

TO CLEAN HYPODERMIC SYRINGES.

Syringes, the canals of which have become obstructed, so that a fine wire cannot be drawn through, may, according to the *Deutsche Medicinische Wochenschrift*, be cleaned by holding them for a moment over a flame, the foreign substances being by this means rapidly destroyed and driven off. If a wire has been rusted into the needle it should be dipped in oil before holding over the flame. To remove the rust from the interior of the canula it is well to pass oil through the canula, then heating it; then rinse it out with alcohol. The needle may then be used.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR REGULAR CORRESPONDENT.)

Atropine and Morphine to Combat the Noxious Effects of Chloroform—Interstitial Injections of Solution of the Bichloride of Mercury in the Treatment of Tumors—Treatment of Hæmorrhage due to Fibromata by preparations of Ergot of Rye and Hydrastis Canadensis.

Dr. Dastre has, for some time, undertaken experiments with a view of combating in the dog the noxious effects of chloroform, by the association of atropine and of morphine, and Dr. Aubert, of Lyons, was the first to endeavor to ascertain on man the advantages of this method. In a note by Dr. Reynier on the subject, which he read at a recent meeting of the Société de Chirurgie, he stated that he has employed this method in a certain number of cases in his service at the Hospital Tenon, and he has had one death, which he believes should be attributed to the association of these three elements. It was the case of a young girl of sixteen years of age whom he had recently operated on for a tuberculous ostitis of the cuboid bone. Half an hour before the operation, he had injected under the skin half a Pravaz syringeful of a solution containing per syringe 1 centigram of morphine and half a milligram of atropine. The chloroformization was easy. The operation lasted only ten minutes, during which time about 30 grams at the most of chloroform was absorbed. The patient, without awakening, opened her eyes, and the surgeon had left the ward when a message was sent to him to say that she had ceased to breathe. On his return he found her white, livid, still breathing feebly, with the pupils strongly dilated. In a few seconds the respiratory movements were definitely arrested and the pulse ceased to beat. Three hours of artificial respiration was employed, during which, on two or three occasions, the beats of the heart were perceived, but the patient was not restored to life. The autopsy was practiced by Prof. Verneuil, which revealed nothing particular, except anæmia of the bulb. Dr. Reynier concludes that in this case bulbar paralysis was produced by chloroform, and what is to be remarked is, that this paralysis had come on so late, ten minutes at least after the administration of the last drop of chloroform. It may be remarked that in patients anæsthetized by this method, the waking takes place tardily, the atropine and morphine are poisons of slow elimination, and the elimination of chloroform is equally retarded. Dr. Reynier had undertaken, with reference to this subject, a series of experiments, the result of which was that atropine stopped the beats of the heart more quickly, and that, if it renders the accidents at the commencement less imminent, it exposes more to accidents at the end and renders them more dangerous. According to Dr. Terrier, who, on his side, had made some researches on this method, he observed that the anæsthesia varied according to the subjects. In man, notwithstanding the injection, the period of excitement exists, the wakening is very brusque. In women the agitation does not take place. It is wanting four times out of five. He also had one death in a young woman on whom he had performed nephrectomy. Death took place ten minutes after the cessation of chloroform. Dr. Schwartz observed that by administering chloroform in small doses, as practiced by Dr. Labbé, one never meets with the accidents that are sought to be avoided by the atropo-morphinic method.

Dr. Poucel, Hospital Surgeon at Marseilles, recommends interstitial injections of solutions of the bichloride of mercury in the treatment of tumors in appearance cancerous. He says he has obtained several cures by this method, and he speaks of tumors of cancerous appearance, as in subjects affected with hereditary syphilis, one sometimes sees tumors develop which for the most part bear the clinical characters of cancer. However, in these cases the iodide of potassium is the principal part of the treatment. It dissolves pseudo cancers of syphilitic origin and remains without effect against true cancer. He states that therapeuty appears to establish that which histology still discusses, viz.: that these tumors of cancerous appearance, and perhaps all tumors, are produced by a microbe which characterises such cellular malformation, as several among them, and perhaps all, might be cured by an anti-microbian treatment practiced early. The following is the method adopted by Dr. Poucel in the treatment of tumors: He injects with Pravaz's syringe, after taking the most vigorous precautions, in from two to six punctures, from 1 to 3 grams of the liquor of Van Swieten in the most indurated parts of the tumor. After the injection, the liquid must be retained as the retraction of the tumor tends to expel it. These intra-parenchymatous injections are ordinarily but little painful, do not produce salivation, and may be renewed every day. The inflammatory and gangrenous phenomena which are sometimes observed are attributed to the omission of some part of the antiseptic rule. When the cure is about to be produced, it is announced at the end of about twenty sittings or more. Dr. Poucel, therefore, believes that surgeons who have not yet renounced operating for cancer would do well not to undertake any operation before they have submitted their patients to the treatment vaunted by him.

In the treatment of hæmorrhage due to fibromata Dr. Lohlein recommends the preparations of

the ergot of rye and the extract of hydrastis canadensis. He has tried these remedies with success in women who menstruated too frequently, and whose menses are too abundant and too prolonged. Hydrastis is still more active than ergot, and Dr. Lohlein remarks that when the subcutaneous injection presents any difficulty, the ergotine may be administered per rectum either in the form of small enemata or in the form of suppository. In order to obtain the full effects of the hydrastis canadensis, it should be administered from six to ten days before the expected period, 30 drops to be given three times a day. In this way the intermenstrual period is lengthened and the duration of the hæmorrhage shortened. A. B.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

First Examinations under the New Law—State care of the Indigent Insane—The Lamborn Prize Essays on the Mosquito and its possible extermination—Cultivation of Plants under the Electric Light—A 5-year old Child falls six stories without serious injury.

The first examinations of those proposing to enter the study of medicine and law, under the direction of the Regents of the University of the State of New York, in accordance with the provisions of the new law, were held during the last week of September. In this city and Brooklyn nearly three hundred young men and a few young women were examined at the College of Physicians and Surgeons, the Medical Department of the University of the City of New York, and the Long Island College Hospital. All the students are required to pass satisfactorily in arithmetic, geography, grammar, English composition and spelling, and United States history. In addition, medical students must pass in either physics or physiology, as they may elect, and law students in English history. The same questions on each of these branches were also submitted to students presenting themselves at Albany, Syracuse and Buffalo. It is noticeable that the questions often call for information in regard to very recent matters, so that those who read the newspapers, other things being equal, have the best chance of success. For example, in geography some of the questions are as follows:

7. Mention in the order of their size the largest three cities of the United States, as determined by the census of 1890.

11. What States of Central America have recently been at war?

13. What country of South America recently changed its form of government, and what was the change?

19. Describe the Congo River, telling where it rises, in what direction it flows, and into what it empties, and give the name of the explorer who first traced it from its source to its mouth.

The percentage required to pass the examiners is 75, but an applicant who fails can come up again as often as he likes. A similar series of examinations will be held in November, January, March and June. The students are allowed three hours in which to prepare written answers upon each subject.

This law, which is similar to that previously adopted in other States, is designed to diminish charlatanism and quackery in both the medical and legal professions. Up to the present time any accredited physician might practice in this State by the simple act of registry with the Clerk of the county in which he desired to practice; and a lawyer's right to practice was as easily secured. Under the new law medical or law graduates, physicians or lawyers in practice, and graduates of colleges or first-class schools are exempt wholly or in part from examination. Beginning with next year, however, the exemption will be contracted, and persons not then fully entitled to practice must pass the preliminary examination, no matter how well prepared for professional work. Even experienced physicians coming into this State to practice may be required to submit to examination upon the subjects indicated; and a certificate from the University of the State will be the only sure passport for the recognition from county boards of health which is now extended to all physicians who take the trouble to register themselves at the office of the County Clerk.

Under the system that has hitherto prevailed, large numbers of the insane in this State who had neither friends nor money were deprived of the benefit of the care and treatment to which they were entitled because of the private pay patients who were received into the State hospitals for the insane. Under the provisions of the law passed at the last session of the Legislature establishing State care of the indigent insane, however, the State Commission in Lunacy has taken upon itself the work of reforming this injustice. The new law recognizes the poor insane as the special wards of the State, and accordingly the Commission has ordered that, beginning with October 1, no private patient in any State hospital shall be allowed to occupy exclusively more than one room or be permitted to have the exclusive services of an attendant, and that no distinction whatever shall be made between private and public patients in respect to the quality and amount of the care and accommodation furnished them. Many of the abuses that have crept into the county asylums under the pay system will be remedied by the new law, and as there are plenty of private

institutions where patients whose friends can afford to pay for them can have all the advantages of the most approved methods of treatment, this reform can only result in much good.

The Messrs. Appleton have just issued a book of considerable scientific interest which is devoted to the Lamborn prize essays on the mosquito and its possible extermination. Early in the summer of 1889 Dr. Robert H. Lamborn sent out a circular to the "working entomologists of the country," offering prizes for the best essays describing original investigations on this subject, and when the competition was completed the first prize was awarded to Mrs. C. B. Aaron, while the second was divided between Mr. Archibald C. Weeks and Mr. William Brentenmuller. Some of the points and observations contained in these essays are worthy of special note. There seems to be no doubt that the mosquito is capable of communicating a poison. The fact that if the insect is allowed to remain long enough to draw out a sufficient quantity of blood from its victim but little irritation follows would seem to prove this; but it is also said that it is capable of inoculating the human species with malarial disease. Lewis has found twenty female mosquitos (and it has been ascertained that it is the female mosquito alone that bites) out of 140 to be infected with hæmatozoa, and McLeod, in commenting on this, calls attention to the serious consequences arising from filaria in the blood. Dr. Finlay, of Havana, asserts that it is his belief that the mosquito is an agent in spreading yellow fever. He says that the insect, after puncturing the skin of a yellow fever patient, retains some of the germs of the disease, and is thus liable to communicate the infection to the next person it visits. So sure is he that the mosquito is the active, if not the only, agent for the dissemination of yellow fever, that he holds that the disease cannot exist where the mosquito does not flourish. In apparent corroboration of this opinion, he states that in the summer of 1885 mosquitos were unusually scarce in Havana, but were very numerous in the autumn, and that during this summer there were but few yellow fever cases, while in October and November the number increased very considerably. Mr. H. Hammond, in *Science*, presents some facts which appear to go to confirm this view. "In 1839," he says, "during a yellow fever epidemic in Augusta, Ga., no cases originated at Somerville, a neighboring suburb among the sand hills. There were no mosquitos at Somerville, which was approached by a rather circuitous route from Augusta. Some years after, a straight, broad road was built through the swamps directly to the sand hills, cisterns were also built, and mosquitos appeared and became an intolerable pest. During the yellow fever epidemic of 1854, a number of cases originated at the sand hills abounding with mosquitos."

One of the methods that has been proposed for the destruction of mosquitos is the propagation of the dragon fly, which feeds largely on this insect. Its great voracity, and the fact that it chooses the same localities as the mosquito, would be relied upon for the extermination of the pest by those advocating this remedy. On the other hand, as militating against the practicability of such a plan, it is alleged that the mosquito is largely a nocturnal insect, while the dragon fly is only diurnal, and that it would be quite impossible to propagate dragon flies artificially with anything like the rapidity with which mosquitos propagate themselves. Mr. Weeks, in his essay, suggests that the best plan to banish the mosquito is to drain meadows, bogs and swamps, and to fill up stagnant pools and level rain-holding hollows contiguous to dwellings. He also says that one remedy very simple and near at hand is the preservation of insectivorous birds.

Mr. Brentenmuller holds the plea, raised in behalf of the mosquito, that in its larval stage it destroys the germs of the miasmata, to be futile and misleading. These germs, in our present state of knowledge, are very indefinite organisms, and there are methods of exterminating them much more effective than the work to be expected from the mosquito, viz.: drainage, clearance and sunlight. Among the natural remedies to be relied upon against mosquitos, he says, are the services of fish and water-fowl. Fish can be introduced into our public lakes, and aquatic birds may be adopted for the purpose of destroying mosquito larvæ near houses and in ponds in well-cleared fields. This naturalist states that he has often observed how infrequent the larvæ are in the Central Park lakes, and he ascribes their absence to the fish and the water-fowl abounding there. Certain artificial remedies are also suggested, such as the use of coal oil in swamps, the larvæ being destroyed by the oil floating in a thin film upon the water. One very interesting point is made by Mrs. Aaron. The public does not rightly understand the migrations of mosquitos, she says. The idea prevails at the seaside that a land breeze brings swarms of them from inland. This notion is based on the supposition that mosquitos are capable of long sustained flights, which is an error. It is usually only during the lulls in the wind that they can fly, and when a strong sea breeze is blowing the mosquitos conceal themselves in trees and large bushes. When the wind dies down, however, they come out from these hiding-places.

The experiments in the cultivation of plants under the electrical light recently made in the botanical department of Cornell University, at Ithaca, have given some rather curious results, and corresponding for the most part with those met with in some similar experiments previously reported from Russia. The first and most notice-

able effect of the treatment is an enormously increased rate of growth, though the plants seem to "run very much to leaf." Thus vegetables, such as peas, shoot up very quickly, and in a few weeks are two or three times as tall as those planted under ordinary conditions. It has been observed in every instance, however, that the reproductive powers are strongly affected, these being sacrificed to mere foliage and rapidity of increase in general size; so that in the matter of buds and fruit of any kind the development is far inferior to that observed in plants grown in sunlight.

There is a little boy five years old in this city, who was apparently not born to die from tumbling down stairs or any accident of that kind. One evening not long since the youngster, while playing on the roof of the tenement house where he resides, slipped into a narrow shaft between that and an adjoining building and fell all the way to the ground, a distance of six stories. Yet, strange to tell, when he was picked up it was found that not only was he alive, but that no bones were broken, and that with the exception of a rather severe scalp wound he was but little the worse for his extraordinary fall. P. B. P.

TENTH INTERNATIONAL MEDICAL CONGRESS.

To the Editor:—I have the honor to report something more than the fact of a pleasurable time—and the meeting with many eminent men. What I saw and heard by no means embraced the whole scope of the Congress. No one person could take this in, and as its full relation would overcrowd the columns of THE JOURNAL, only a few items will be referred to.

1. *The Management.*—The Congress was well managed, if a great good-natured medical assemblage can be well managed anywhere. Everywhere was present the evidence that almost everything of advantage to its members had been anticipated with that thoroughness of detail which characterizes German methods. It was a fine idea that of holding the sessions in Exhibition Park, a large enclosed area of many acres, amply furnished with space outside and inside. The arches of an elevated railroad that ran through it were utilized for offices; this suggests that our L-roads be made on street fronts and not in the middle as now, and the under spaces made use of for business purposes.

The Sections, eighteen in number, were mostly held in the salons of a large picture gallery. In this way the music of the eye was joined to the music of the voice in speaking. I am compelled to say that most of the speakers could not be heard simply because they did not speak in the chords of the keynote of the auditorium. Some Americans complained that the Germans did not wait to hear them read through. It is possible that the acoustic difficulties drove them away. Nothing is harder to stand than an address with a delivery which is unintelligible, and doctors are not celebrated for their oratory.

2. *Papers Printed Beforehand.*—Most of the readers had their papers printed beforehand, read from them and distributed copies afterwards. This is a good idea and facilitates the production of the Transactions. It is something worth the consideration of the American Medical Association. It might result in terser papers and it certainly would facilitate business.

3. *General Meetings.*—The general meetings in the Circus Ring were inspiring from their magnitude. One realized a little how many doctors there are at work in the world. It was almost impossible to hear anything in the seat assigned to me because of its remoteness. There were a good many lay visitors to whom it was necessary to accord high places and, of course, they crowded out so many delegates, but so long as this necessity was understood there was no grumbling. Indeed there was the best of feeling.

4. *Pharmacology.*—This Section was a deserved recognition of pharmacists, the same as that which the American Medical Association bestowed at Nashville last May. It marks a step forward and which gives promise of the best results.

5. *The Entertainments.*—They were many and varied and well carried out. As in America, so here, some of the profession overstepped the bounds of sobriety and lost somewhat by it—but the great mass was decorous. The private hospitalities were free and some delegates lived with their Berlin friends. The habit of smoking and and making speeches at the table during dinners was new to some. In the speeches of some Americans I noticed a tone of apology when it seemed that none was required; America sent over one-tenth of all the delegates, was put at the head at the imperial reception and had a large share of the general addresses. Ninety-two out of 660 papers, read in the Sections, if the count is correct, were American. In the Health Exhibit, on the gable ends of the Great Hall, the American names of Sims and Rush shone equally conspicuous with Galen, Hippocrates, etc. American ideas were welcomed there also, so that we had no need to apologize.

6.—*The Empress.*—I happened to be at the Exhibition when the Empress visited it and was close to her. There was no fuss nor feathers. In every sense a lady, modest in dress, she showed an intense interest in the various phases of the exhibit as they were shown to her. She appeared in every way a grace and honor to her exalted position. I think she impressed the visitors as favorably as did Mrs. Cleveland, when foreign

visitors were at Washington, in 1887. Her visit to the Exhibition was a mark of respect, and she evinced an interest in medical matters worth remembrance.

7. *Sanitary Exhibition.*—The eminently practical character of the various things pertaining to health in this Exhibition was very instructive. Amidst the multitude it is difficult to particularize. And as the catalogue is complete to it I must refer my readers.

8. *Frozen Sections.*—I refer to those of the Berlin pathological institute. These series were of the greatest interest to me, because for many years I had wished to make such sections, and because they settle some points of great practical value to gynecologists. I refer to those made in the median longitudinal line of the female trunk impregnated and post-partum. In all the sections the vaginal walls were in contact almost to a line. These prove that when in the dislocated uterus the vagina is shortened longitudinally and lengthened laterally, there is a diametrical opposition to the normal vaginal axes. To restore and retain the uterus *in situ naturali*, the transverse muscular fibers of the vagina must be contracted into normal contact. Again, in one of the frozen sections there was a sub-involuted uterus of double size and yet the vaginal walls were in contact. The axis of the vaginal and the axis of the uterus were in continuous curve and alignment. These sections completely support some American positions laid down about twenty years ago. It is to be hoped that like frozen sections of the unimpregnated female will be made in this country, to further sustain or disprove the position that curative mechanical means of uterine displacements must include the abandonment of pessaries that depend for their support upon distending the already distended and shortened vaginal walls.

9. *The Music of the Congress.*—So long as Prof. Shoemaker, of Philadelphia, has put music in the materia medica, the excellence of the medicine music at Berlin should be noted. It is difficult to draw the line when there is so much superiority, but I think that the in-door music at Knoll's Garden on Saturday evening was the best. Of course in music there are different types of great excellence. For example the out-door garden concert by three military bands at the Court Reception at Potsdam, was for fine rendering, exquisite touch and finish of execution, delicate balancing of parts and timbre and timely appreciativeness—a remarkable performance. The music of the band located at the extreme west was so engrossing as to chain me to the spot where I stood and was for the time oblivious to passing events—but taking the ground that the voice is the most wonderful instrument of music, the palm must be rendered to the Knoll's Garden artistes who came from London, Stockholm, Moscow, Wiesbaden, Vienna, Berlin, etc. and gave this concert, the best I ever heard. The good wife, the better musical critic, found it soulful, satisfying and restful. It was splendid medicine to nerves worn out by hard work in the Sections through the week. It gave strength; it imparted vigor; it healthfully toned up the central nerve centers; it showed one secret of German national strength. Such music makes strong because it relaxes nerve tension which long kept up weakens and crazes. It was in line with the beautiful morning hymns with which the military mounted bands, preceding the troops going to parade, roused us gracefully from sleep at six o'clock nearly every morning. It taught a lesson how to confer force by stopping its wasteful expenditures through the brain unduly working. All things that arrest the needless expenditure of nerve force belong to the materia medica, and good music ought to have its place there as Dr. Rush showed many years ago. But it must be good music. I am not sure but that some good music introduced in the Sections of our annual meetings would add to the good understanding of subjects, because a rested brain works so much better than when tired.

10. *Microphotography.*—I saw much fine work and many cameras for the purpose—some of them new. They photograph with the eye-piece and objective a good deal. But I could not find either microphotographs or apparatus which excelled American appliances and work done in 1876. There was no systematic microphotography of the morphology of consumptive blood and foods or drawings of the morphology of the sputum, for example as to American microscopes. An eminent German microscope maker inspected one which I brought and said there were none like the highest objectives (Tolles) or such stands in Germany, simply for the reason that no one would pay for them. This gentleman thanked me for the opportunity of inspecting this specimen of American work.

Personals.—In the largest scientific gathering the world ever saw, there had to be a huge amount of clerical and managerial work which was very creditable to all concerned. I no not individually particularize, but personally know that the general secretary, Dr. Lassar, was deservedly complimented for his arduous labors. The chairman of the Section (of Gynecology), Dr. A. Martin, very ably handled his business. Those who read were notified by postal when they were expected and this saved a good deal of trouble, in a Section whose work was so very much crowded. Dr. Martin is an honor to his nation and profession. In this connection, Prof. von Leyden, managing member of the Section of Internal Medicine, should receive mention for his courtesy, efficiency, interested observation and good management. Do not think these are mentioned to exclude others, but because I am able to speak from personal knowledge—for the Ber-

lin Congress was splendidly managed as to business, hospitality, entertainments, and welcoming of guests, and I desire to give all a chance, but the inevitable delays that came from non-appearance of readers, prolonged discussions made paper-reading short. The privilege of seeing distinguished medical workers from all over the world and of knowing those by sight who had been known long by their writings was a boon. The great good of such congresses is the planting of seeds of thought that may spring up and bear abundant beneficent fruit after the sowers have passed away and know naught of the good they have done. This encourages workers to persevere, knowing that good work honestly done will some time receive the recognition it deserves and thus honor their profession, race and country.

EPHRAIM CUTTER, M.D.
A Delegate from the American Medical Association.

NECROLOGY.

DR. J. MATTHEWS DUNCAN, of London, died at Baden, September 3, at the age of sixty-four years. He was a native of Aberdeen, educated at Edinburgh and Paris, taking his degrees about 1850. He was a coinvestigator with Simpson in developing the anæsthetic uses of chloroform. Dr. Duncan took high rank as a clinical teacher in midwifery and gynecology and general medicine, and not only became extremely popular among the Edinburg students, but became well-known throughout two continents long before the fortieth year of his age. When the death of Sir James Y. Simpson made a vacancy in the chair of midwifery in the Edinburgh University, Dr. Duncan was regarded as the professional candidate for the place, but the appointment fell to the lot of Dr. Simpson, of Glasgow, a nephew of the deceased professor, who had the votes of the lay-curators of the institution, those having the preponderating weight. Not long after, in 1877, Dr. Duncan was invited to take the professorship of midwifery in the college of St. Bartholomew's Hospital, London; thither he removed and taking up his residence in Brook street, became the neighbor of Drs. Jenner, Gull, Ord, Savory, Habershon, Palfrey and Harley. He became a consultant of the first rank, winning the esteem and affection of the profession as well as those whom he personally served. His writings were many, but rather fugitive in character, and their subjects bore, with especial frequency, on obstetrics and diseases of women and children.

DR. J. NELSON BORLAND, formerly of Boston and Nahant, died August 10, aged sixty-two years. He was a graduate in medicine at the Harvard University in 1850, and afterward attached to that institution as Instructor in Clinical Medicine, for several years. He was one of the first staff of visiting physicians at the Boston City Hospital, and joint editor of its reports. He retired from practice twelve years ago, and made his home at Waterford, Conn. He was a man of great geniality of manner, a fine presence and a general favorite in every walk of life wherein he moved.

DR. ROBERT ALEXANDER MANWARING, a classmate of Dr. Oliver Wendell Holmes, and for nearly fifty years one of the leading physicians of eastern Connecticut, died at New London, September 1. He came from Colonial stock and was born August 11, 1811. He was a type of the old time general practitioner, kindly, practical and modest.

DR. DANIEL W. KISSAM, died at Brooklyn, N. Y., September 9. He was born in New York City fifty years ago, and received his degree from the College of Physicians and Surgeons in 1865. Since King's, now Columbia College, was founded the name of Kissam has been an oft repeated one on the Catalogue, the first in the long list being Samuel Kissam, one of the two graduates honored in 1769 with the degree of Bachelor of Medicine.

MISCELLANY.

U. S. MARINE-HOSPITAL SERVICE EXAMINATION.—A Board of Examiners, of which Surgeon W. H. H. Hutton, of the Marine-Hospital in Baltimore, is Chairman, has been ordered to convene at New York, Oct. 27 for the purpose of examining applicants for admission into the Marine-Hospital Service.

ONE of Reed & Carnrick's extensive factories at Goshen, N. Y., was destroyed by fire on the 10th ult. This factory was devoted wholly to the production of their soluble food and lacto-preparata and contained extensive and valuable machinery. They had considerable stock of these foods at their New York office, and consequently there will be no delay in filling orders. The factory will be at once rebuilt three times the size of the one burned, with machinery correspondingly enlarged. —*Dietetic Gazette.*

TRI-STATE MEDICAL ASSOCIATION.—The second annual meeting of the Tri-State Medical Association of Alabama, Georgia and Tennessee will be held in Turner Hall, Chattanooga, Tenn., on October 14, 15 and 16. It promises to be one of the most successful, profitable and entertaining meetings ever held in the South.

A fare of one and one-third rate has been secured on all roads. Procure straight tickets and procure from your ticket agent a certificate showing the purchase, form, and kind of ticket, rate, route, etc. Get Secretary of Association to endorse certificate, present to agent at Chatta-

nooga for return ticket at one-third rate. On C., R. & C. R. R., buy round trip ticket. From some points it may be advantageous to purchase ticket to Lookout Mountain. North of the Ohio, harvest excursion tickets will be on sale on the 14th, one fare for the round trip.

FRANK TRESTER SMITH, M.D., Sec'y.

The following is a partial list of papers to be read:

President's Address, "The Doctor," J. B. Cowan, M.D., Tullahoma, Tenn.

"Amputation of Hip in Two Times Method," Duncan Eve, M.D., Nashville, Tenn.

"Report of a Case of Ulceration after Exsection of the Breast," L. G. Dozier, M.D., New England City, Ga.

"Report of a Case of Fracture of the Pelvis, with Presentation of Patient," W. T. Blackford, M.D., Graysville, Ga.

"Case of Remarkable Injury with Recovery, Presentation of Patient," R. A. Cobleigh, M.D., Chattanooga, Tenn.

"Report of a Case of Gangrene of the Leg," W. L. Stevens, M.D., Dayton, Tenn.

"Report of a Case of Phlegmonous Abscess," C. H. Holland, M.D., Chattanooga, Tenn.

"Report of a Case of Cancrum Oris," W. P. McDonald, M.D., Hill City, Tenn.

"Report of Cases of Fracture at the Elbow-joint," Andrew Boyd, M.D., Scottsboro, Ala.

"Report of Two Cases of Cataract Absorbed, and Cases of Glaucoma Cured without Operation," J. M. Hull, M.D., Augusta, Ga.

"Neuralgia," W. L. Gahagan, M.D., Chattanooga, Tenn.

"Morbid Reflex Neuroses Amenable to Surgical Treatment," Willis F. Westmoreland, M.D., Atlanta, Ga.

"Abscess of the Liver," Richard Douglass, M.D., Nashville, Tenn.

"Report of a Case of Abscess of the Liver," J. R. Rathmell, M.D., Chattanooga, Tenn.

"Cases of Gall Stones," E. E. Kerr, M.D., Chattanooga, Tenn.

"Expert Testimony," Mr. Sydney B. Wright, Chattanooga, Tenn.

"On all Sides a Learned Doctor," James E. Reeves, M.D., Chattanooga, Tenn.

"The Dynamics of Mediumism," J. E. Purdon, M.D., Cullman, Ala.

"A Contribution to the Study of Continued Fevers of the South," Llewellyn P. Barber, M.D., Tracy City, Tenn.

"A Few Remarks on the Fevers of Middle Tennessee and their Treatment," J. C. Shapard, M.D., Winchester, Tenn.

"Some Phases of Typhoid Fever as well as the Abandonment of the Typho-Malariæ," J. W. Russey, M.D., Rising Fawn, Ga.

"Diagnosis of Corneal Affections—Flourescein," Frank Trester Smith, M.D., Chattanooga, Tenn.

"Eye Strain," A. G. Sinclair, M.D., Memphis, Tenn.

"Physiological Functions of the Nose," A. B. Thrasher, M.D., Cincinnati, Ohio.

"Uterine Fibroma," J. C. Murfree, M.D., Murfreesboro, Tenn.

"Some Irregular Forms of Epilepsy, with report of cases," W. C. Maples, M.D., Bellefonte, Ala.

"Dilated Cardiac Hypertrophy, with Nephritic Complications," W. C. Townes, M.D., Chattanooga, Tenn.

"Urethral Stricture and its Complications," J. D. Gibson, M.D., Birmingham, Ala.

"Palliative Treatment of Fissure of the Anus and Stricture of the Rectum," John P. Furniss, M.D., Selma, Ala.

"Some Affections of the Rectum," L. J. Krouse, M.D., Cincinnati, Ohio.

"Treatment of Cervical Catarrh," H. Berlin, M.D., Chattanooga.

"Laparotomy in Ectopic Pregnancy," Wm. H. Wathen, M.D., Louisville, Ky.

"Case of Epithelioma of the Cervix, Vaginal Hysterectomy," B. P. Key, M.D., Chattanooga.

"Strabismus and its Cure," Chas. W. Tangeman, Cincinnati.

"Scleroderma," A. Ravogli, M.D., Cincinnati.

LETTERS RECEIVED.

Ward Bros., Jacksonville, Ill.; Dr. Frank Trester Smith, Chattanooga, Tenn.; Dr. Gus. Evans, Aberdeen, Miss.; R. Law, Vancouver, S. C.; Dr. W. E. Connell, Wauwatosa, Wis.; H. S. Hutchinson & Co., New Bedford, Mass.; Braidwood & Stahl, Keokuk, Ia.; Dr. J. B. Mattison, Brooklyn, N. Y.; J. Astier, Paris, France; Dr. L. L. Leeds, Lincoln, Ill.; Dr. H. W. Elmer, Bridgeton, N. J.; Dr. D. P. Miller, Huntingdon, Pa.; Dr. Chas. Bryon, Corn, W. Va.; Bank of Commerce, Dr. J. E. Wright Indianapolis, Ind.; Bank of Commerce, Baltimore, Md.; First National Bank, Salina, Kan.; Germania Bank of St. Paul, St. Paul, Minn.; Dr. J. P. Creveling, Auburn, N. Y.; Dr. Carl Horsch, Dover, N. H.; W. Thomson, F. R.C.S., Dublin, Ireland; Pacific Medical Journal, San Francisco, Cal.; Dr. C. Lester Hall, Kansas City, Mo.; Dr. T. Wertz, Evansville, Ind.; Dr. Chas. N. Cooper, San Jose, Cal.; Dr. J. L. Williams, Boston, Mass.; Howard M. DuBois, Phila.; Dr. H. H. Peachey, Cincinnati, O.; Dr. Henry B. Baker, Lansing, Mich.; Dr. J. R. Kewley, Dr. E. Fletcher Ingals, Chicago Ill.; Reed & Carnrick, Jas. F. Madden, Dr. F. King, Dr. W. V. Davis, Dr. P. B. Porter, New York City; Clark, Forbes & Co., Miamisburg, O.; Dr. J. A. Muenich, Jefferson, Wis.; Dr. A. Blitz, Indianapolis, Ind.; J. W. Harrison, Jersey City, N. J.; J. T. Petty, Washington, D. C.; Dr. U. O. B. Wingate, Milwaukee, Wis.; J. D. Lingle, Sunbury, Pa.; Dr. W. L. Beebe, St. Cloud, Minn.; Dr. G. E. Francis, Worcester, Mass.; Dr. Geo. H. Grant, Richmond, Ind.; Dr. J. T. Mack, Sandusky, O.; Albany Medical College, Albany, N. Y.; H. E. Harris, Utica, O.; Dr. William D. Hamilton, Columbus, O.; College of Physicians and Surgeons, W. M. Danner, Chicago, Ill.; D. A. Deaver, Shermerville, Ill.; Dauchy & Co., W. A. Purrington, Gum Elastic Roofing Co., New York City; Dr. H. H. Powell, Cleveland, Ohio.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from September 27, 1890, to October 3, 1890.

In view of the abandonment of Ft. Gibson, Ind. Ter., to which post he is at present assigned for station, Capt. W. D. Owens, Jr., Asst. Surgeon, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Ft. Sill, O. T., and report to the commanding officer for duty. S. O. 125, Dept. of the Missouri, St. Louis, September 27, 1890.

In view of the abandonment of Ft. Crawford, Col., to which post he is at present assigned for station, Capt. J. L. Phillips, Asst. Surgeon, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Ft. Logan, Col., and report to the commanding officer for duty. Par. 1, S. O. 135, Dept. of the Missouri, St. Louis, September 27, 1890.

Capt. Louis S. Tesson, Asst. Surgeon (Ft. Sidney, Neb.) is granted leave of absence for twenty days, to take effect when his services can be spared by his post commander. S. O. 72, Dept. of the Platte, Omaha, Neb., September 25, 1890.

Capt. John L. Phillips, Asst. Surgeon, leave of absence granted in S. O. 164, July 16, 1890, from this office, is extended two months. By direction of the Secretary of War. Par. 3, S. O. 228, A. G. O., Washington, September 29, 1890.

Capt. Louis W. Crampton, Asst. Surgeon (Ft. Sheridan, Ill.) is granted leave of absence for one month, to take effect about October 1, 1890. Par. 2, S. O. 80, Div. of the Missouri, Sept. 30, 1890.